Health 2 Go

Progress Report through December 31, 2022

3/2/23

Table of Contents

Acknowledgments

We wish to express our gratitude to the individuals and institutions for the support and commitment in the development and implementation of Health 2 Go:

Stephen Alder, Ph.D., MBA
Stephen Manortey, Ph.D., MSc
Edward Sutherland, MD, MPH
Gideon Kwarteng Acheampong, MPH
Cassandra Cowdell, MPH
Gloria Quansah Asare, Ph.D., MPH
Chief Nathaniel Ebo Nsarko, Ph.D.
Rebecca Ametepe, RN
Isabella Guynn, MPH
Irina Ofei, Municipal Director of Health Services – Yilo Krobo
Catherine Asare, former Municipal Disease Control Officer-Lower Manya Krobo
Stella Natriku, Sub-Municipal Health Director – Kpong Health Centre
Wawase CHPS zone Communities, Kpong Sub-Municipal, Lower Manya Krobo District
Daniel Ansong, MD, Dean of KNUST School of Medical Sciences
Kingsley Osei-Kwakye, MD, former Director of Health Services, Atwima Nwabiagya District
Shaibu Mohammed, PA, sub-District Director, Berekese, Kumasi
Barekuma Community Collaborative Development Program (BCCDP) Communities
Jeanette Nelson, Ph.D., MPH
Sharon Talboys, Ph.D., MPH
Krista Ocier, Ph.D., MPH
Daniel Opoku Agyemang, MPH
Yvette Avorgbedor, MPH
Edward Sam, MBA
Alicen Bringard, MPA
Elizabeth Rabon, MA
Jill Stephenson, MPA
Lynette Gay, Chair, Board of Governors of the Ensign Global College
Gabrielle Gay, Senior Advisor, Ensign Global College
Spencer & Kristen Kirk Family
Rick Haskins, Cast a Pebble Foundation

Report prepared and reviewed by Cassandra Cowdell and Professor Stephen Alder.

Abbreviations

BCCDP: Barekuma Community Collaborative Development Project

CHPS: Community-Based Health Planning and Services

CBA: Community-Based Agent

CHN: Community Health Nurse

CHO: Community Health Officer

GHS: Ghana Health Services

H2Go: Health 2 Go

ICCM: Integrated Community Case Management

IHA: Interethnic Health Alliance

IMCI: Integrated Management of Childhood Illness

MOH: Ministry of Health

PI: Principal Investigator

RDT: Rapid Diagnostic Test (malaria)

SDG: Sustainable Development Goals

UN: United Nations

UNICEF: United Nations Children's Fund

WHO: World Health Organization

H2Go Summary of Accomplishments

Wawase CHPS Zone Pilot - Serving 1,500 People (Kpong, Eastern Region of Ghana)

- COVID-19 response in communities: Training of H2Go CBAs on COVID-19 health education and risk communication, procurement, and distribution of personal protective equipment; CBAs educate their communities on prevention of community transmission (beginning March 2020)
- Collaborative COVID-19 research study initiated aimed at effecting community behaviors/practices to mitigate COVID-19 community spread (April 2020)
- Continuous service in 6 communities in the Lower Manya Krobo District since November 2016
- 9 of 10 CBAs remain active and effective, and all equipment has been well utilized; 1 of the 10 CBAs was out of commission for this period (October to December of 2022); a CBA sadly passed away in September of 2022
- Communities recognize CBAs as front-line service providers
- 17,270 educational Home Visits by CBAs on illness prevention, nutrition, and health promotion
- Among approximately 200 children under age 5, there were 4,843 illnesses treated in the community setting (November 2016 – December 2022)
    - 3,040 malaria; 950 diarrhea; 853 pneumonia/Acute Respiratory Illness (ARI)
    - 210 children referred to collaborating health facilities for serious and life-threatening illnesses
- Engagement of communities through 6 multi-community durbars (Town Hall Meeting) to discuss the H2Go program (October 2016, March 2017, September 2017, October 2018, December 2018, August 2022)
- Routine monthly meetings with District Health Leadership to continually improve the program
- 68 monthly Supportive Supervision Visits provided on-site to CBAs (December 2016 – December 2022)
- 10 Refresher Trainings (January, April, July 2017; January, August 2018; March, November 2019; August 2020, April 2021, January 2022)
- Completed GIS Mapping, Census, and Health Behavior Survey in communities (June 2017)
- Launched in 6 communities of the Wawase CHPS zone (November 2016)
- Completed initial basic training for 12 GHS personnel and 10 CBAs (July, August 2016)
    - 5 days Manager/Facilitator training + 3 days supervisor training + 6 days Community Based-Agent training + 2 days community internship: 16 training days total
- Press event at Ensign Global College (formerly Ensign College of Public Health) with coverage from national TV and 12 newspaper journalists
- Identified 6 target communities, received official welcome by chiefs (May 2016)
- Formed direct linkage to hospital and health facility that receive referrals by Health 2 Go
- Established strong relationships with GHS Lower Manya Krobo District Health Director, Kpong sub-District Director, key District Public Health, and Community leaders
- Initiated Health 2 Go Program in Ghana with partnership of University of Utah, Ensign Global College, Cast a Pebble Foundation and Ghana Health Service (GHS) in 2015

BCCDP Serving Approximately 20,000 People (Ashanti Region of Ghana)

- COVID-19 response in communities: Training of H2Go CBAs on COVID-19 health education and risk communication, procurement and distribution of personal protective equipment, CBAs educate their communities on prevention of community transmission (beginning March 2020)
- Collaborative COVID-19 research study initiated aimed at effecting community behaviors/practices to mitigate COVID-19 community spread (April 2020)
- Continuous service in 20 communities in the Atwima Nwabiagya North District since May 2018
- 30 CBAs remain active and effective, and all equipment remains operational
- Communities recognize CBAs as front-line service providers
- Procured funding supply of medicines from Cast-A-Pebble Foundation after previously committed source did not follow through (December 2018)
- 29,203 educational Home Visits by CBAs on illness prevention, nutrition, and health promotion
- Among approximately 2,200 children under age 5, there were 12,412 illnesses treated in the community setting (October 2018 – December 2022)
    - 6,245 malaria, 2,771 diarrhea, 3,396 pneumonia/Acute Respiratory Illness (ARI)
    - 624 children referred to collaborating health facilities for serious and life-threatening illnesses
- Engagement of communities through 2 multi-community durbars (Town Hall Meeting) (May 2018, October 2019)
- 50 monthly Supportive Supervision Visits provided on-site to CBAs (June 2018 – December 2022)
- 7 Refresher Trainings including clinical training at collaborating hospital (January, June, October 2019; September 2020; March, November 2021; September 2022)
- Launched in 20 communities of the BCCDP in Atwima Nwabiagya North District (May 2018)
- Completed initial basic training for 14 GHS personnel and 30 CBAs (February, April 2018)
    - 5 days Manager/Facilitator training + 5 days supervisor training + 5 days Community Based-Agent training + 1-day community internship: 16 training days total
- Press event at Ensign Global College with coverage from national TV and 12 newspaper journalists (January 2018)
- Established strong relationships with Atwima Nwabiagya North District Health, Berekese sub-District, key sub-District Public Health, and community leaders in BCCDP in Ashanti Region

Executive Summary

Overview

Health 2 Go is a community-based primary healthcare program that focuses on improving the health of communities. The program is currently implemented in two geographically diverse areas in Ghana. While the traditional model of health care requires people to go to facilities to access basic services, Health 2 Go employs the approach of bringing the health system to the doorsteps of families. The program is designed to overcome obstacles that cause similar programs to fail and to support countries in reaching United Nations' Sustainable Development Goal (SDGs) targets to reduce child deaths to no more than 25 deaths per 1,000 live births and maternal deaths to 70 or less per 100,000 live births by 2030. Ghana's current rate for child deaths is 44 deaths per 1,000 live births.[7] The vast majority of both child and maternal deaths are preventable.

Since November 2016, Health 2 Go has had continuous service in the six small communities of the Wawase CHPS Zone, serving 1,500 people in a remote area of the Kpong sub-District of the Lower Manya Krobo District (Eastern Region) in Ghana. In May 2018, Health 2 Go expanded to a larger demonstration site of the Barekuma Community Collaborative Development Program (BCCDP), which consists of 20 communities with approximately 20,000 residents in the Barekese Sub-district of the Atwima Nwabiagya North District (Ashanti Region). The overarching goals, which we are actively pursuing are for Health 2 Go to be scalable to a level that allows for country-wide implementation and to be able to adapt and expand this program to other countries.

The Health 2 Go Difference

- Ongoing High-Quality Training
- Consistent Provision of Durable Equipment, Medicines, and Supplies
- Regular Supportive Supervision
- Continual Community Engagement
- Clear Integration into Health System
- Focus on Prevention, Health Promotion, and Early Treatment
- Effective Consumer Branding

Results

Wawase CHPS Zone: Among approximately 200 children under age 5, (November 2016 – December 2022**)**

- 4,843 illnesses treated; 3,040 malaria; 950 diarrhea; 853 pneumonia
- 210 children referred to hospital for serious illnesses; 17,270 Home Visits

BCCDP Demonstration Project: Among approximately 2,200 children under age 5, (October 2018 – December 2022)

- 12,412 illnesses treated: 6,245 malaria; 2,771 diarrhea; 3,396 pneumonia
- 624 children referred to hospital for serious illnesses; 29,203 Home Visits

Vision, Community Capacity, and Impact at Home

A defining principle of the program is the vision to create capacity for communities to be healthy, well, and self-reliant. The real impact of the program is intended to be in the home where inequities of society are most felt, which begin in the first five years when children are developing, including during

the mother's pregnancy, affecting long-term outcomes in health and quality of life. Impact at home can impact communities and countries.

Introduction

Making Measurable Impact to Improve Health Outcomes

One of the greatest challenges faced by developing countries today is providing community-based resources to health care which improve outcomes and make a measurable impact. Although substantial progress has been made globally to improve health since the 1990s[1] the traditional model of health care in which the people access resources at a health facility outside of their community has not worked well. It is challenging to reach vulnerable populations who frequently live far from health centers, making it difficult to achieve country and global health goals.[2] All countries have committed to achieving the target Sustainable Development Goals (SDG) for reducing child deaths to no more than 25 deaths per 1,000 live births by 2030, yet many developing countries are not currently on track to meet this ambitious goal.[3] Ghana's current rate for child deaths is 44 deaths per 1,000 live births.[7] Attempting to solve the issue of access to health resources, multiple programs have been developed to improve community health. The issue has been that they have often been designed without considering the potential risks that could limit their effectiveness, and then have been implemented poorly, resulting in their impact disappointing stakeholders.[4]

Creating Capacity for Health Development through Health 2 Go

Having witnessed firsthand the ineffectiveness of poorly designed and implemented community health programs as they worked on global health projects around the world, Professor Stephen Alder and Mr. Rick Haskins knew that a better strategy was needed. Drawing on decades of highly successful careers in public health, academia, and business, they committed to take a different approach. With the motto of, *'Let's do community health, but let's do it right,'* Alder and Haskins established the vision of 'creating capacity for communities to be healthy, well and self-reliant.' Believing in the philosophy of community-engagement, they set out to find partners to create a model approach to facilitate capacity for communities to improve the health of their own populations. Thus, Health 2 Go was developed with the mission to change the face of global health starting in Ghana.

Health 2 Go Implementation

The initial Wawase CHPS Zone Pilot for Health 2 Go was implemented in the six small communities of the Wawase CHPS zone in the Lower Manya Krobo Municipality of the Eastern Region in Ghana, for about 1,500 residents and has been successfully implemented since November 2016. In May 2018, the program scaled up to a 'Demonstration Site' of 20 more communities serving about 20,000 people in the Barekuma Community Collaborative Development Program (BCCDP) in the Atwima Nwabiagya North District of the Ashanti Region. Lessons learned will be used to inform expansion to other district-level sites and to engage the leadership of Ghana to scale the program country-wide, and then used for expansion into additional countries.

Health 2 Go, Sustainability and Expansion Horizons

H2Go is currently based at the UU Center for Business, Health and Prosperity in the David Eccles School of Business and the Institute for Community Health and Development at Ensign Global College (formerly Ensign College of Public Health), Ghana. To ensure sustainability, expansion, and maximum impact of Health 2 Go, we continue to develop a social franchise model led by Prof. Stephen Alder. We are pursuing expansion with potential partners using the social franchise model into other areas of Ghana and are exploring launching into other countries. Dr. Gloria Asare, former deputy of Ghana Health Service, and Dr. Chief Nat Nsarko, Public Health implementation specialist, are serving as consultants on program expansion. Additionally, we are evaluating the impact of the program in currently implemented areas.

Child Deaths

It is estimated that 69 million children will die between 2016-2030 unless committed and consistent action is taken.[3] Major killers of children under age 5 are pneumonia, malaria, and diarrhea with malnutrition being an underlying cause in nearly 50 percent of these deaths.[5,9]

Inequities impacting the household level are also determining factors in a child's chance of survival,[3] including:

- Lack of access to health care
  - Children die because they live too far from a health facility[5]
- Poverty
  - Poorer children are almost two times as likely to die before age 5 than wealthier children[3]
- Low maternal education level[3]
  - Children whose mothers have no education are three times as likely to die than children whose mothers received secondary education[3,6]
- Household poor health practices
  - related to behaviors such as delayed care seeking, nutrition, water, sanitation, etc.[3]

Children from households that are poor not only face higher risks of dying, but account for a larger percentage of child deaths than children from wealthy families.[3]

Most child deaths are preventable, and most illnesses are easily treated at low cost if healthcare is accessed early.[5]

Call to Action

The United Nation's (UN) calls upon all countries to reduce under age 5 child deaths to no more than 25 deaths per 1,000 live births by 2030 as part of the UN Sustainable Development Goal (SDG) targets.[1,3]

In order to meet child health targets, UNICEF has called for countries to address inequities which affect health outcomes of the disadvantaged the most, as the poor and marginalized will need to make faster progress since they account for a greater percentage of child deaths.[3]

Ghana Context

UNICEF reports 39,423 deaths of children under-5 years of age in Ghana during 2021 resulting in a child mortality rate of 44 deaths per 1,000 live births.[7] The most recent available data on cause of death (updated by UNICEF in 2021) indicates that three preventable causes were responsible for half of deaths of children ages 1-59 months in Ghana during 2016.[7]

Major Challenges Remain

The UN SDG Index Dashboard indicates major challenges remain for Ghana to meet SDG targets by 2030 for child health as depicted below by the red circle rating for under age 5, newborn, and maternal mortality.[10] While Ghana has made significant progress in reducing child (and maternal deaths) since the 1990's, as have other developing countries, substantial efforts still need to be made. Trends indicate that if Ghana's current rate of progress continues, it is on track to achieve the under 5 SDG target by 2030, but not progressing enough to achieve newborn or maternal SDG targets by 2030. However, it is important to realize that the pace needs to be sustained to stay on track to meet under age 5 targets for child health and needs to increase to achieve newborn and maternal targets by 2030. Additionally, it is significant to note that it is only recently that Ghana increased progress enough to be reclassified as 'on track' to achieve the SDG target for under age 5 child health. Ghana was classified as 'not on track' to reach the SDG of 25 deaths per 1,000 live births by 2030 in a 2016 UNICEF report.[3]

Figure 1: SDG Dashboard for Maternal and Child Health

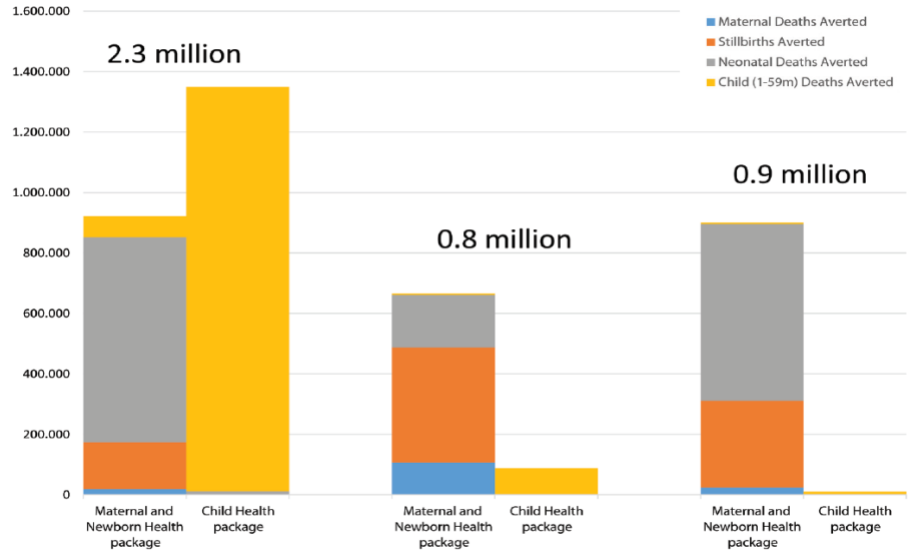
Source: https://dashboards.sdgindex.org/#/GHA

Community Health

Healthcare Delivery Platforms

The potential impact of community-based primary health care along with engaging with communities is often overlooked, even though research indicates that easily implemented community interventions can increase healthcare coverage and reduce deaths.[11] In a comprehensive review of evidence of effectiveness of community-based primary care to improve child, newborn and maternal health, Black and colleagues report that the community level platform provides the most potential opportunity to prevent deaths, which could be reduced by 2.3 million per year if the total package of evidence-based interventions for communities reached all children and mothers. In comparison, interventions needing to be implemented at primary healthcare centers and in hospitals would prevent less than half of the total number of deaths (0.8 million, 0.9 million).[11]

Figure 2: Comparison of Maternal, Perinatal, Newborn and Child Deaths that can be Averted by Health–Care Packages through three Service platforms[11]



Source: (Black et al, 2017)[11]

Recommendations from the Expert Panel of Black and colleagues, calls for strengthening health systems through community-based primary healthcare, tracking resources, and recognizing that communities are a valuable resource to bridge the gap between health systems and communities. The community platform can reach people where they live who have the greatest needs to improve health outcomes.[11]

The Health Model, Severity of Disease, and Costs

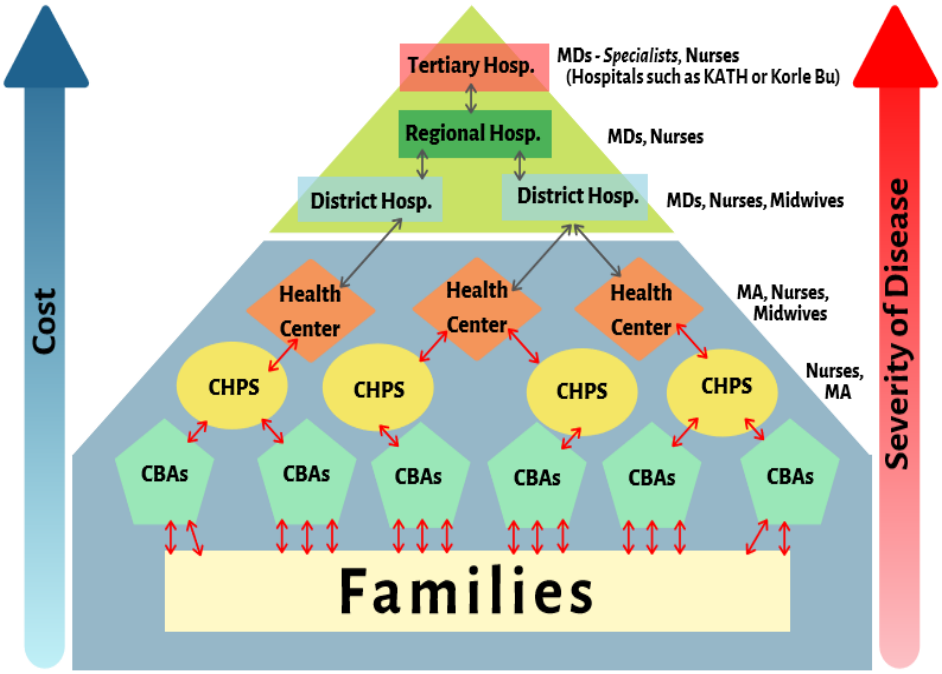
The significance of the community and household levels in a health care model and their respective potential to prevent illness, improve health, and control costs is underappreciated.

Many resources are allocated to improving health at the top level of the health triangle where costs are highest and outcomes uncertain, yet few resources are invested at the base levels to improve health

where the potential returns are greatest. The Ghana Health Systems Model depicted below highlights the relationship between health care access, severity of illness and cost.

Figure 3: Ghana Health Systems Strategy: Severity of Disease and Costs

If health care is delayed, due to lack of access to services in the community, severity and cost for each higher-level care accessed increases, and outcomes are uncertain.



If health care is accessed early at the family level and treated in the community, and then managed at home, both severity and costs are lower, and outcomes are generally positive.

Past Efforts of Community-based Programs

Although past efforts have been made to address health at the community level through various programs, problems with such programs have been common[8] including inadequate training, equipment & supplies; lack of effective supervision; failure to engage communities, and disconnection from health system. As a result of these common problems, community health workers are often unable to serve their communities without essential medicines, equipment, ongoing training, and supervision. Thus, it is not surprising programs have experienced low demand and uptake of services from residents.

Program Overview

What is Health 2 Go?

Health 2 Go delivers the health system to communities

- Builds community capacity through education and health promotion
- Treats basic illnesses in communities
- Bridges the gap between health system and communities
- Connects complicated illnesses to health facilities

Current System

• People → Healthcare

Health 2 Go

• Healthcare → People

Health 2 Go Mechanisms include:

- Appropriate use of the health care system
- Community Health Workers known as Community Based Agents (CBAs)
- World Health Organization (WHO)/UNICEF Integrated Community Case Management of Childhood Illness
- Children under age 5 → mothers → families → communities

Health 2 Go overcomes common challenges of community-based programs:

COMMON CHALLENGES	HEALTH 2 GO SOLUTIONS
• Insufficient training	Ongoing high-quality training
• Inconsistent access to equipment, medicines, and supplies	Consistent provision of durable equipment, medicines, and supplies
• Limited supervision structure	Regular supportive supervision
• Disengaged communities	Continual community engagement
• Disconnected from formal health system	Clear integration into formal health system
• Poor emphasis on prevention	Prevention, health promotion, and early treatment emphasized
• Ineffective consumer branding	Effective consumer branding

The Health 2 Go Difference

H2Go is unique, in that District and sub-District personnel who oversee the Health 2 Go program as managers are highly engaged in the program and provide direct linkage to health facilities, since they are trained to serve as H2Go facilitators/managers. The managers then train supervisors and community-based agents (CBA) who will serve in communities. The purpose is to provide opportunity so that strong relationships are built among managers, supervisors, and CBAs during the trainings across the levels of health workers. Not only does it ensure that program personnel have deep knowledge of the program, but they take responsibility and ownership of the program as well.

The seven (7) differentiating features of H2Go include:

- Ongoing High-Quality Training
- Consistent Provision of Durable Equipment, Medicines and Supplies
- Regular Supportive Supervision
- Continual Community Engagement
- Clear Integration into Health System
- Focus on Prevention, Health Promotion, and Early Treatment
- Effective Consumer Branding

Ongoing High-Quality Training

H2Go training follows a comprehensive curriculum consisting of rigorous initial and routine refresher trainings, which utilize the gold standard curriculum from the World Health Organization (WHO) and United Nations Children's Fund (UNICEF). In addition to classroom training, clinical sessions are conducted in partnership with selected hospitals in the area. Figure 4 illustrates how trainings for managers, supervisors, and CBAs are structured. All CBAs take a competency exam and must have a passing score of at least 80% for CBAs to achieve the H2Go certification.

Figure 4: Health 2 Go Training Model

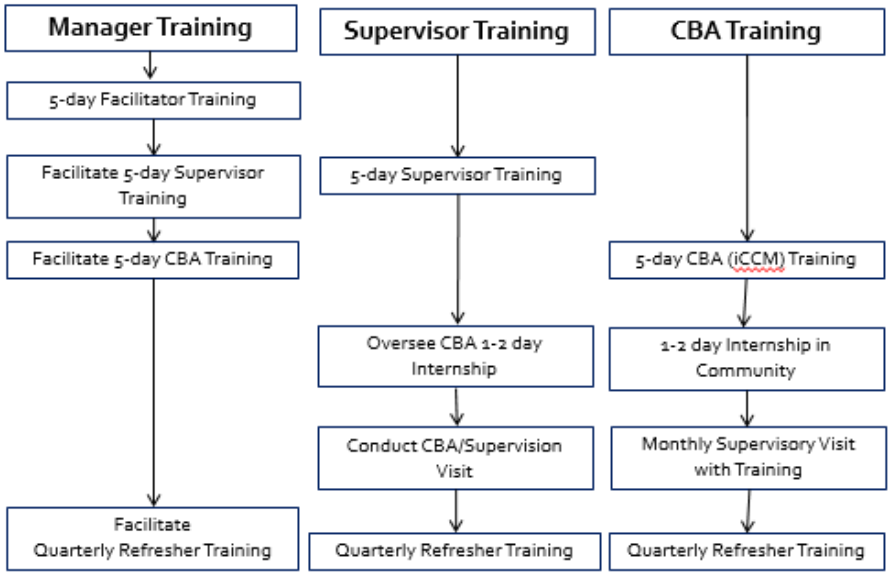


Figure 5: Health 2 Go Training Topics

H2Go training topics
Introduction of H2Go
Expectations of participants during training
Integrated community case management (ICCM) of childhood illness overview
Hand washing
Pregnant woman danger sign assessment
Newborn (0 to 2 months old) danger signs assessment
General danger signs in children (2 months to 5 years old)
Fever/malaria in children (2 months to 5 years old)
Cough/pneumonia in children (2 months to 5 years old)
Diarrhea in children (2 months to 5 years old)
Nutrition in pregnant women, infants, and children
Documentation
Home visits
Role of the CBA

Consistent Provision of Durable Equipment, Medicines, and Supplies

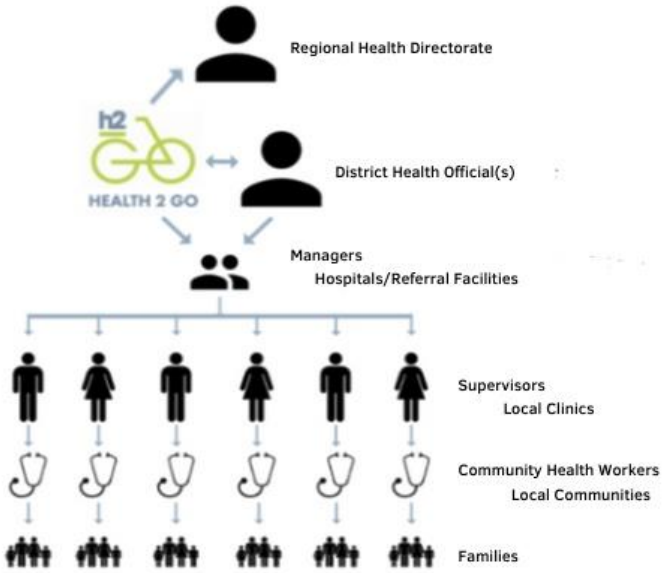
High quality, durable equipment along with an uninterrupted provision of medicines and supplies is essential to the success of the H2Go program. Rugged Bicycles are equipped with fully enclosed chains for safety and solid tires to ensure continual mobility and are branded with the H2Go logo for easy identification. Additionally, uniforms, rain gear, cell phones, and treatment equipment is provided to CBAs. A list of basic CBA equipment, medicines and supplies is listed below:

- **Mobility:** H2Go branded bicycles with rear basket, bicycle helmet, H2Go messenger bag, flashlight
- **Uniform/Identification:** H2Go polo and T-shirt; identification badge
- **Communication:** Cell phone
- **Treatment diagnostic/supplies**: Medicine box, timer, ORS mixing equipment, middle upper arm circumference (MUAC) tape, soap, Job Aid
- **Record keeping/documentation:** CBA Register, Referral book, home visit log, inkpad, pen, pencil, eraser
- **Vision/sight:** Corrective eyeglasses are provided if CBA vision is impaired
- **Medicines/tests:** Rapid Diagnostic Tests (RDT) for malaria, AA for malaria, ORS for diarrhea, amoxicillin suspension for pneumonia/Acute Respiratory Illness (ARI), and paracetamol.
    - H2Go sources all medicines/tests through GHS Regional Medical Supplies
    - Restocking occurs during monthly supervision visit

Regular Supportive Supervision

Community health officers are trained as supervisors, while CBAs provide healthcare services to communities. The H2Go supervision structure is established to be supportive, as CBAs receive support from their supervisors and are encouraged to develop relationships with their supervisors. In addition to supporting CBAs, supervisors are indirectly involved with communities, as they provide outreach services in the communities by conducting routine monthly visits. Overall, H2Go is structured in such a way that reinforces linkage to health facilities and integration into the national health system (Fig. 6).

Figure 6: Health 2 Go Supervision Structure



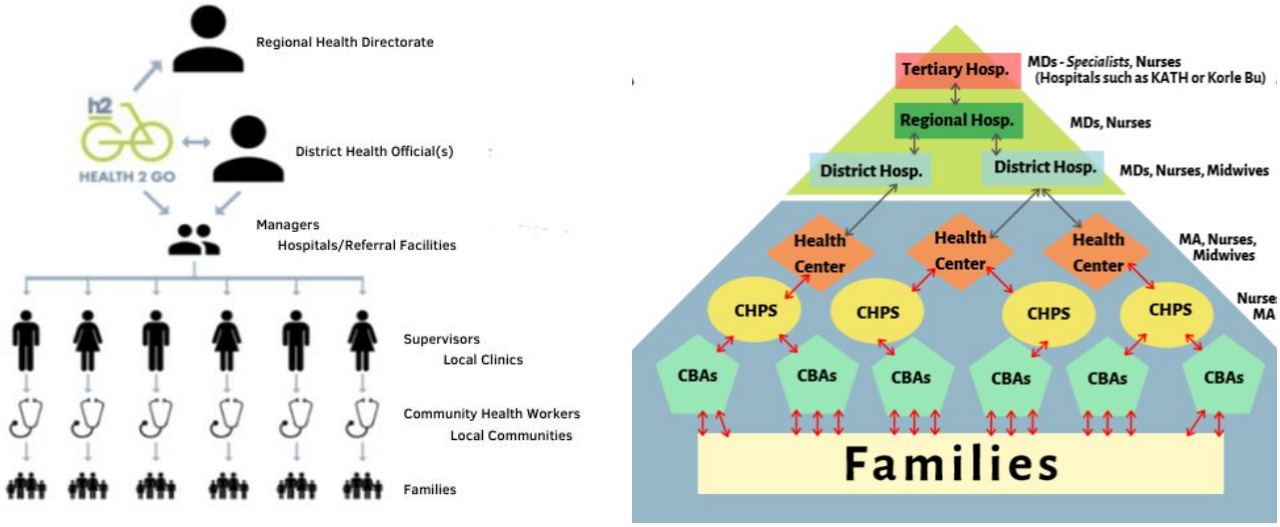
Continual Community Engagement

- Communities are engaged through all stages of H2Go
- Official entry/welcome into communities
- Routine durbars (town hall meeting) for feedback on H2Go activities within the communities

Clear Integration into Health System

- H2Go structure aligns with the Ghana Health Model (Figure 7)
- Integrated from the District level to sub-district level to CHPs zone down to community level
- District Health administrators, providers, and nurses serve as H2Go managers and supervisors
- Strong linkage to health facilities and hospitals that receive referrals by Health 2 Go CBAs
- Strong leadership and ownership of the program by District Health officials

Figure 7: Alignment of Health 2 Go Supervisor Structure and Ghana Health Systems Strategy



Focus on Prevention, Health Promotion, and Early Treatment

Educational home visits are another core component of the program. CBAs routinely educate mothers or caregivers during monthly household visits on illness prevention, health-promoting behaviors, nutrition, and seeking early treatment for illness. CBAs receive performance-based stipends per household visit. 10 home visits per week for a total of 40 per month are required for CBAs to receive the entire stipend. CBAs also encourage mothers during home visits to bring their children to outreach activities in which they can access life-saving interventions such as immunizations.

Effective Consumer Branding

Health 2 Go uses a common brand on all durable equipment and supplies. The brand is easily recognizable in communities and represents the high quality of the Health 2 Go system.

Health 2 Go: Wawase CHPS Zone Pilot

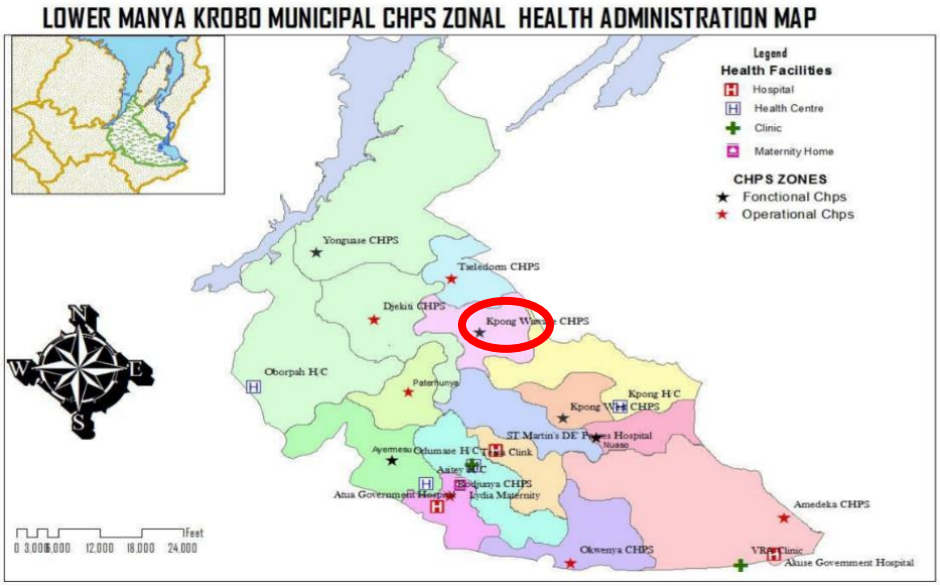
Implementation Overview

Health 2 Go launched in six (6) small communities serving approximately 1,500 people in the Wawase CHPS zone in the Kpong sub-district of the Lower Manya Krobo District in the Eastern Region of Ghana on October 24, 2016.

Figure 8: Wawase/Kpong Health 2 Go Pilot Site in Lower Manya Krobo District (Eastern Region)

Communities include:

1. Aplah
2. Abobeng
3. Wawase
4. Piengua
5. Obelemanya
6. Atotorsi



Preceding the official program launch in the Wawase CHPS Zone, initial training took place for 12 GHS Personnel and 10 CBAs which occurred at Ensign Global College with clinical sessions held at St. Martin's Hospital and Atua Hospital during July and August of 2016. Following initial basic training, CBAs performed a 2-day community internship in their respective communities during August 2016, which was overseen by H2Go Supervisors and Managers. In conjunction with the introduction of the program, two multi-community Durbars were held in which residents expressed gratitude for the program being implemented in their communities. CBAs were given bikes, medicines, cell phones, rain gear and solar torches. CBAs began serving their communities on November 1, 2016.

The communities continue to receive services from H2Go CBAs and supporting Ghana Health Services (GHS) personnel trained as H2Go Managers and Supervisors, with no interruption of continuity since implementation began in November 2016.

Impact of Health 2 Go

The Impact of the H2Go Wawase CHPS Zone Pilot and the service of CBAs to families in their communities cannot be overstated. All CBAs are actively engaged in serving families through conducting routine household visits to educate mothers and caregivers on nutrition, preventing illness, and promoting health through behaviors such as handwashing.

H2Go Wawase CHPS Zone Recent Activities

During the quarter October – December 2022, routine CBA activities continued to occur in communities. Supervisory visits to conduct routine monitoring and evaluation with checklists occurred onsite in the community setting. During supervisor visits additional focus is placed on reinforcing training topics covered in the last Refresher Training and providing supportive supervision. Supervisors encourage CBAs to continue providing excellent service in communities. As part of the visit, supervisors use checklists to assess the CBA knowledge; assess the status of equipment, supplies, and medicines; review CBA service rendered during the previous month; and restock medicines and supplies. Additionally, supervisors may shadow CBAs as they are conducting routine monthly home visits to mothers and caregivers. CBAs provide health education on topics such as COVID-19, nutrition, preventing common illnesses in children, and health-promoting household practices. All H2Go Wawase CBAs remain active in their respective communities conducting routine home visits to families, treating common childhood illnesses, and referring patients who display danger signs of complicated illnesses to higher-level health care.

During the past quarter of October – December 2022, Wawase CBAs conducted 490 home visits and treated a total of 240 illnesses in the community setting in children under age 5 years. Malaria was again the most common condition with CBAs treating 153 cases. CBAs treated 44 cases of severe diarrhea and 43 cases of pneumonia/Acute Respiratory Illness (ARI). Additionally, CBAs made three referrals of seriously ill children to health facilities for higher level treatment.

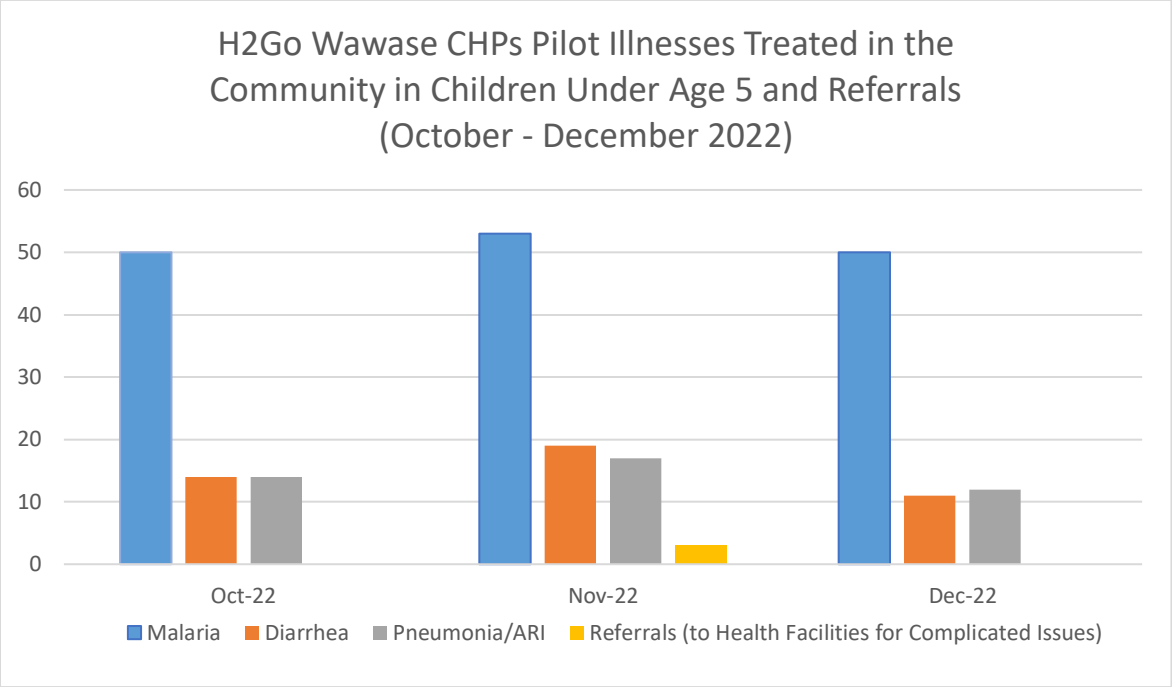
The most recent 2-day refresher training occurred January 27-28, 2022, which was reported on the previous quarterly report. The training occurred at the Ensign Global College in Kpong, Ghana. The training was attended by a total of 18 participants. In attendance were Ghana Health Service Personnel trained as H2Go facilitators/managers and supervisors, H2Go Wawase CBAs, and H2Go Ghana Project team members based out of Ensign Global College including Dr. Stephen Manortey, Ghana country H2Go Principal Investigator (PI), and H2Go Central PI Professor Stephen Alder dually based out of the Center for Business, Health, and Prosperity at the University of Utah (USA) and Ensign Global College (Ghana).

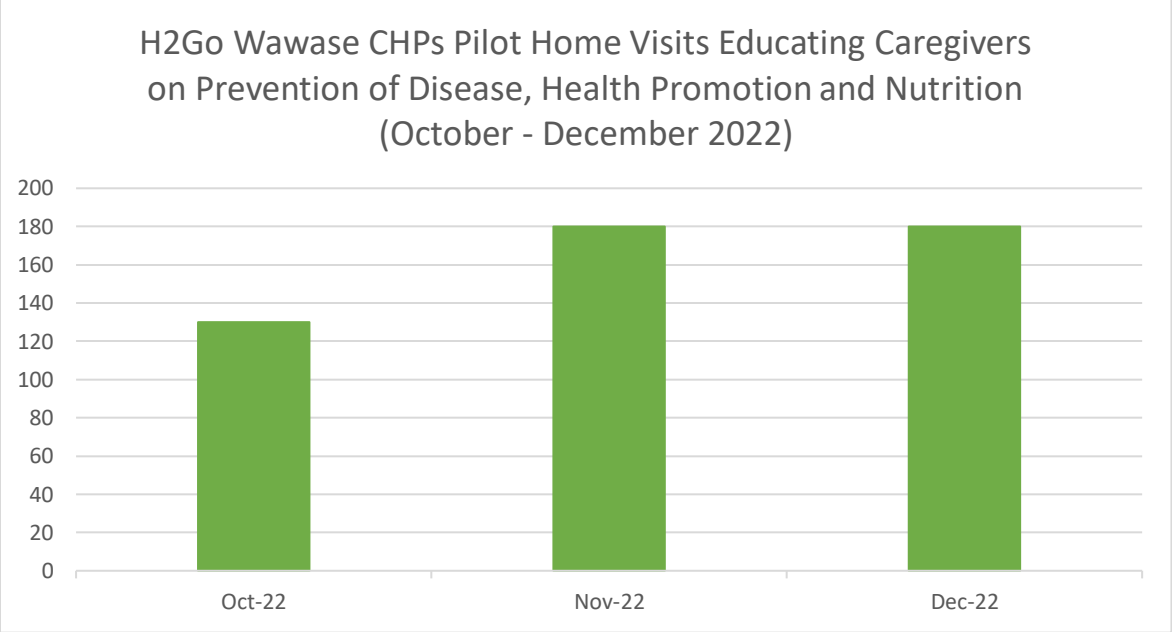
Wawase CHPS Zone Results

From Oct. to Dec. 2022, results are as follows:

Among approximately 200 children under age 5,

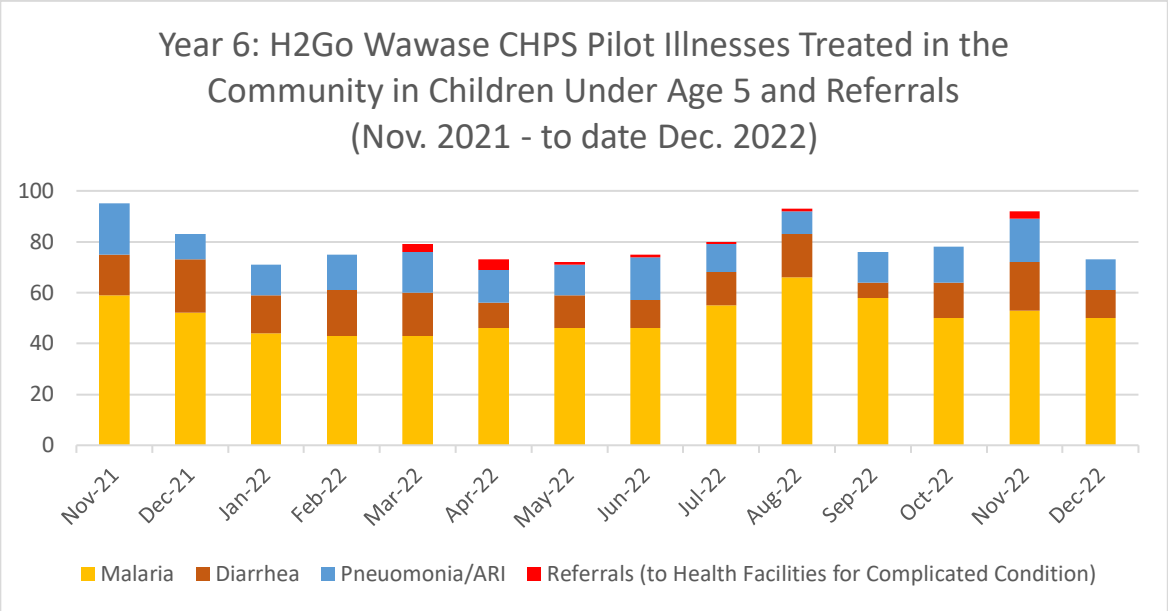
- 240 illnesses treated in the community by H2Go CBAs
  - 153 Malaria; 44 Diarrhea; 43 Pneumonia/Acute Respiratory Illness (ARI)
- 3 referrals were made to hospital for serious illness and life-threatening illness
- 490 Home Visits





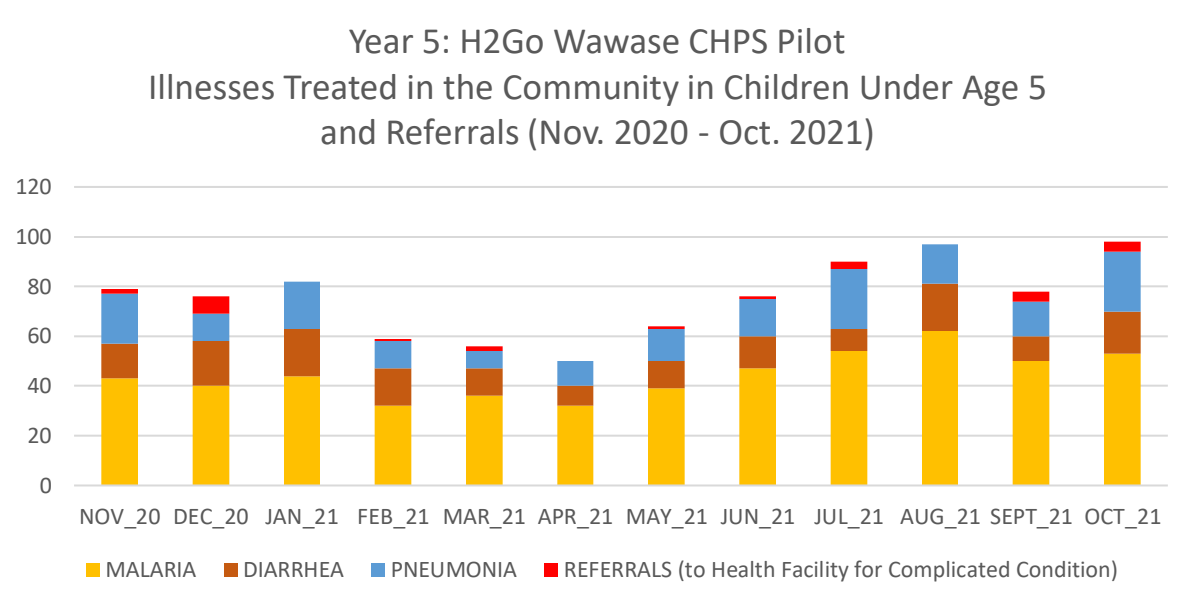
Year 6 (Nov. 2021 – to Dec. 2022): Among approximately 200 children under age 5,

- 1,101 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 711 malaria; 201 diarrhea; 189 pneumonia/Acute Respiratory Illness (ARI)
- 14 Referrals to health facility for serious and life-threatening illnesses; 2,549 Home Visits



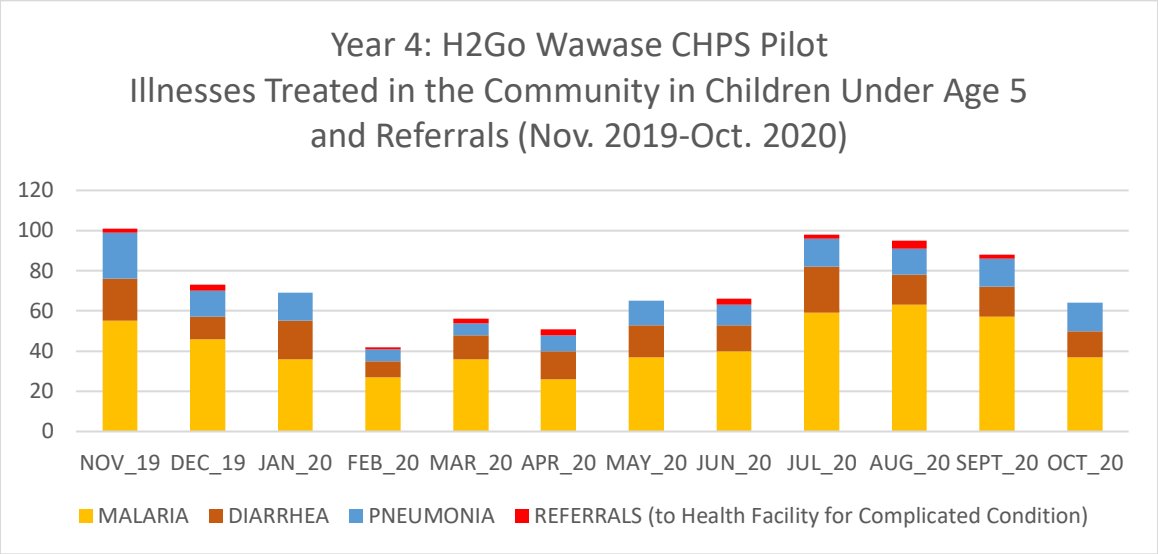
Year 5 (Nov. 2020 - Oct. 2021): Among approximately 200 children under age 5,

- 880 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 532 malaria; 164 diarrhea; 184 pneumonia/Acute Respiratory Illness (ARI)
- 25 Referrals to health facility for serious and life-threatening illnesses; 2,414 Home Visits



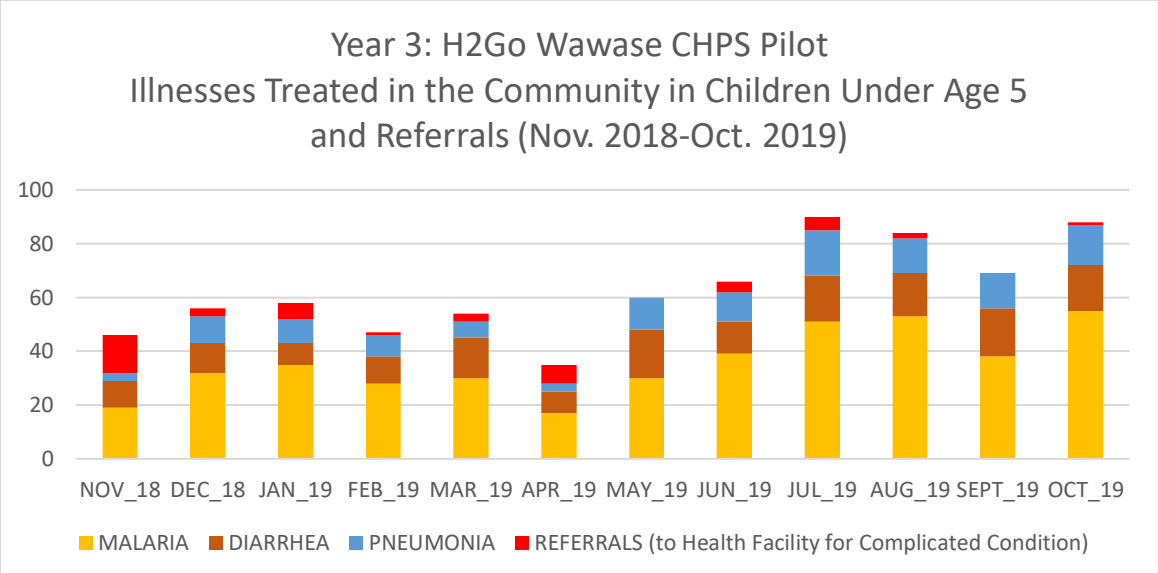
Year 4 (Nov. 2019-Oct. 2020): Among approximately 200 children under age 5,

- 846 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 519 malaria; 180 diarrhea; 147 pneumonia/Acute Respiratory Illness (ARI)
- 22 Referrals to health facility for serious and life-threatening illnesses; 2,756 Home Visits



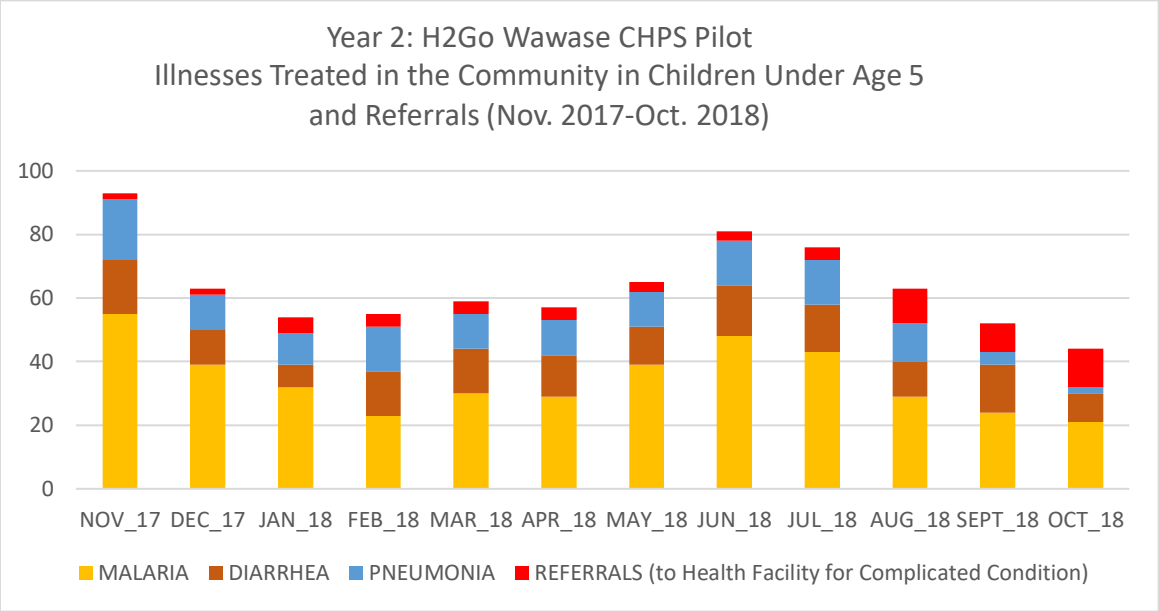
Year 3 (Nov. 2018-Oct. 2019): Among approximately 200 children under age 5:

- 707 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 427 malaria; 160 diarrhea; 120 pneumonia/Acute Respiratory Illness (ARI)
- 46 Referrals to health facility for serious and life-threatening illnesses; 2,571 Home Visits



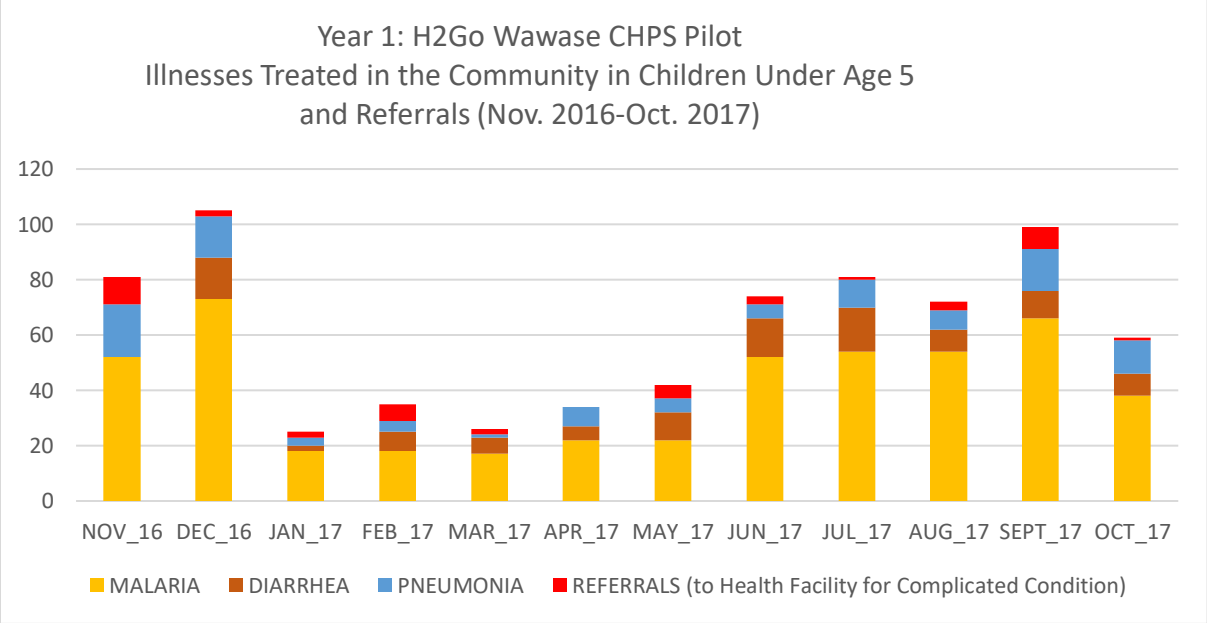
Year 2 (Nov. 2017-Oct. 2018): Among approximately 200 children under age 5,

- 699 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 412 malaria; 154 diarrhea; 133 pneumonia/Acute Respiratory Illness (ARI)
- 63 Referrals to health facility for serious and life-threatening illnesses; 3,197 Home Visits



Year 1 (Nov. 2016-Oct. 2017): Among approximately 200 children under age 5,

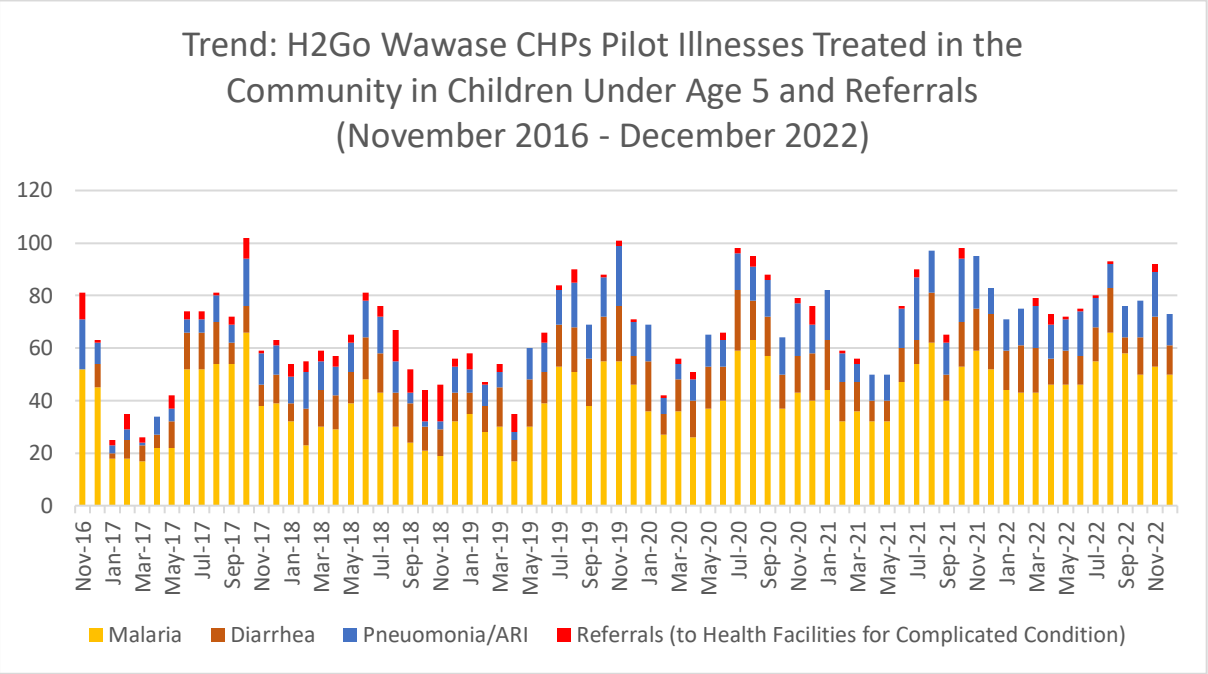
- 690 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 486 malaria; 101 diarrhea; 103 pneumonia/Acute Respiratory Illness (ARI)
- 43 Referrals to health facility for serious and life-threatening illnesses; 3,524 Home Visits

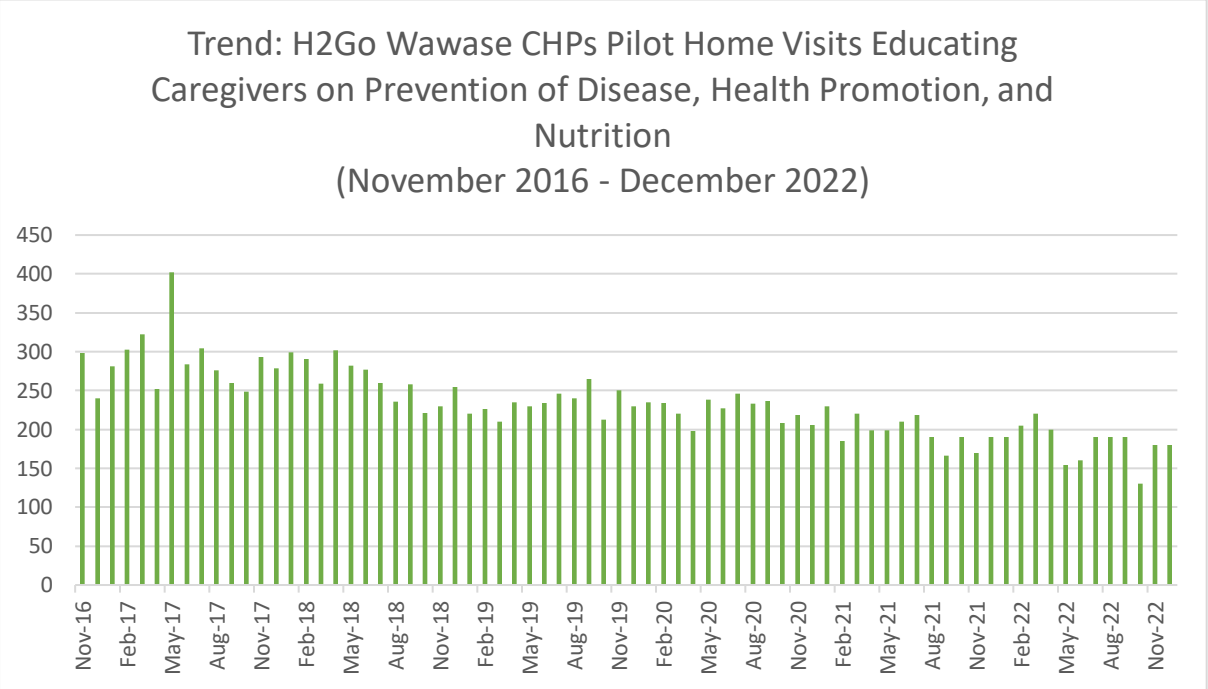


Trends to date (Nov. 2016-Dec. 2022):

Trend-Project total: Among approximately 200 children under age 5:

- 4,843 illnesses treated in the community by H2Go Wawase CHPS Zone CBAs
    - 3,040 malaria; 950 diarrhea; 853 pneumonia/Acute Respiratory Illness (ARI)
- 210 children referred to collaborating health facilities for serious and life-threatening illnesses
- 17,270 Home Visits





Health 2 Go BCCDP Demonstration Project

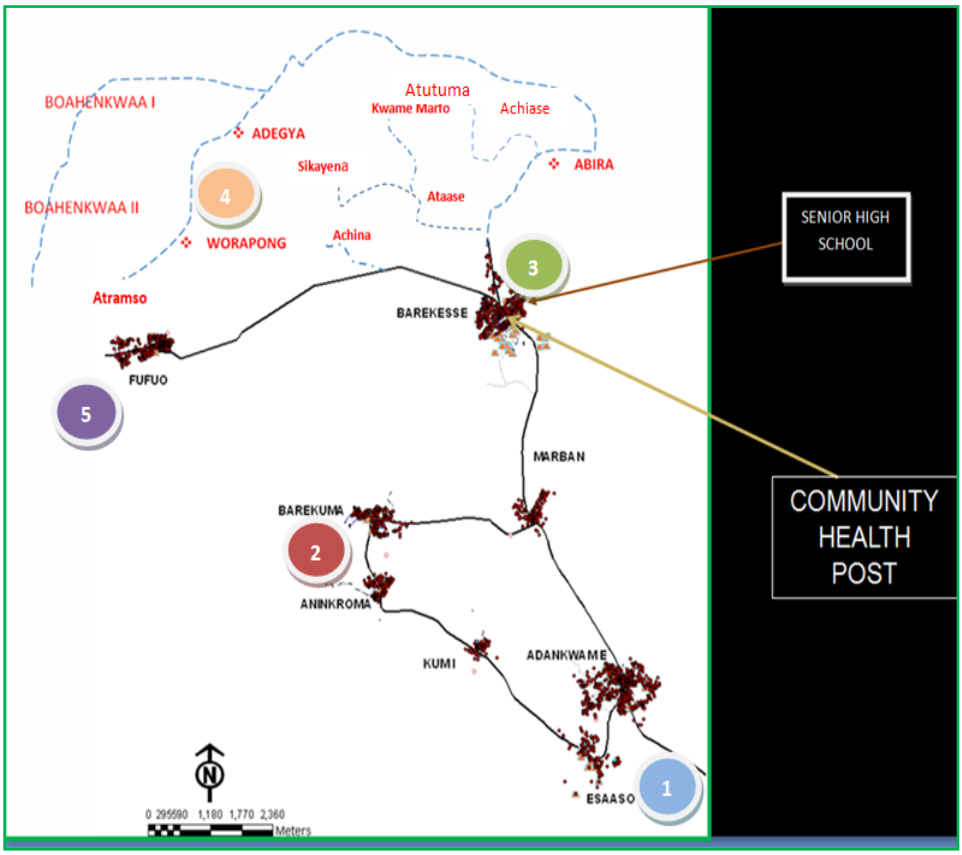
Implementation Overview

The expansion of Health 2 Go into a larger Demonstration project for the BCCDP follows the success of the Kpong Pilot, launched in May 2018. Approximately 20,000 people in 20 rural communities in the Atwima Nwabiagya North District near Kumasi in the Ashanti Region are being served by 30 H2Go CBAs.

Figure 10: BCCDP Communities

Communities include:

1. Boahenkwaa I
2. Boahenkwaa II
3. Adegya
4. Worapong
5. Atramso
6. Sikayena
7. Achina
8. Atutuma
9. Kwame Marto
10. Ataase
11. Achiase
12. Abira
13. Berekesse
14. Marban
15. Fufuo
16. Barekuma
17. Aninkroma
18. Kumi
19. Adankwame
20. Esaaso



Initial Training

Preceding the launch of the H2Go BCCDP Demonstration Project in communities, initial training was completed for 14 GHS Personnel and 30 CBAs which occurred at Ensign Global College with clinical sessions held at St. Martin's Hospital and Atua Hospital in Kpong during February and April of 2018.

Community Internship

Following initial basic training, CBAs performed a 1-day community internship on April 25, 2018, in three communities. The primary purpose of the internship is to provide CBAs an opportunity to repeatedly practice newly learned clinical skills, particularly performing rapid diagnostic tests (RDT) for malaria and reading results, while receiving supportive supervision by Managers and Supervisors. Additionally, the

community internship engages communities and introduces them to the H2Go program. The three communities where the internship occurred included Barekese, Barekuma, and Fufuo.

Turnout of mothers with children was high, as the H2Go Community Internship had been announced in communities the week prior to the event. Over 250 children were tested for malaria, and treated if results were positive, by CBAs. In addition to testing for malaria, CBAs assessed children for pneumonia, diarrhea, danger signs, and malnutrition. Children were treated for respective conditions or referred if necessary. Newly trained H2Go GHS personnel serving as BCCDP Managers and Supervisors provided oversight and mentoring.

H2Go BCCDP Demonstration Project Launch and Press Event

BCCDP was launched on April 26, 2018, in two multi-community Durbars. Press coverage was provided by national TV and radio stations, including Metro TV and UTV.

- Adegya Community
- Fufuo Community

In attendance were Ashanti Regional Director of Health Services (Dr. Tinkorang); Atwima Nwabiagya District Director of Health Services (Dr. Kingsley Osei-Kwakye); H2GO Team (Dr. Manortey, Gideon Acheampong and Daniel Opoku Agyemang); Prof. Steve Alder; Traditional leaders, Assemblymen and women, H2Go BCCDP Manger/Facilitators, Supervisors, and CBAs. Speakers included Prof. Ansong, Dr. Manortey, Dr. Osei-Kwakye, and Dr. Tinkorang. Traditional leaders also spoke to show appreciation and support for the project. CBAs were given their certificates and logistics following the durbars.

H2Go BCCDP Recent Activities

Routine H2Go BCCDP CBA activities and onsite supervisory visits have remain fully operational. CBAs continue to conduct health education home visits to households, educating caregivers on health promotion, prevention of illness, including Covid-19, nutrition, nutrition, and early care seeking for illness.

During the past quarter of October – December 2022, BCCDP CBAs conducted 1,600 home visits and treated a total of 645 illnesses in the community setting in children under age 5 years with readily available, inexpensive medicines. Malaria was the most common condition with CBAs treating 358 cases followed by 188 cases of pneumonia/Acute Respiratory Illness (ARI), and 99 cases of severe diarrhea. Additionally, CBAs made 51 referrals of seriously ill children to health facilities for higher level care.

The most recent 2-day refresher training occurred August 25-26, 2022, at the Atwima Nwabiagya North District Assemble office in Berekese, Kumasi. The training was attended by a total of 23 participants. In attendance were Ghana Health Service Personnel trained as H2Go facilitators/managers and supervisors, H2Go BCCDP CBAs, and H2Go Ghana Project team members based out of Ensign Global College including Gideon Acheampong, Ghana country H2Go Project Coordinator.

The following Refresher Training Report was prepared by Gideon, Kwarteng Acheampong, the Ghana H2Go Project Coordinator.

DAY 1 – THURSDAY, AUGUST 25, 2022

OPENING AND WELCOME ADDRESS

Mohammed Shaibu opened the training at 9:19 am following an opening prayer. Officials of the Atwima Nwabiagya North District were introduced, this included the District Director of Health Services-Mr. Eric Sarpong. Supervisors, facilitators and CBAs from Barekese had the opportunity to introduce themselves. Gideon Kwarteng Acheampong then delivered a goodwill message from the Site Principal Investigator. He thanked CBAs for availing themselves for the training after a long break following the advent of the COVID-19 pandemic in the district and the country by extension.

DISTRICT HEALTH DIRECTOR'S ADDRESS

Mr. Eric Sarpong, the District Director for Health Services (DDHS) of the Atwima Nwabiagya North District addressed the group. He expressed his excitement regarding the commitment of the CBA'S and encouraged them to keep up the great work they were doing in their communities. They were also informed that, on 1st September 2022 there will be a vaccination exercise for children 0-5 years against Polio in their communities. CBAs were asked to help mobilize the community members to participate. He also charged them to continue to champion the adherence to COVID-19 safety protocols and encouraged all and sundry to keep up the good practice. CBAs were encouraged to pay rapt attention, share experiences and seek help from the supervisors when in doubt.

DOCUMENTATION/RECORD KEEPING

Michael Morrison Arthur and Barbara Opoku Gyamfi facilitated a session on documentation of field events for sick children between 2 months – 5 years. CBAs recapped how to document various symptoms of sick children including how to document symptoms of children with general danger signs; convulsion, inability to feed. Documentation of Infections such as diarrhoea, cough, fever and malaria were all discussed. Documentation of treatment regimen for sick children was discussed at length. This was done alongside

exercises/quizzes to ascertain the extent of understanding and assimilation by CBAs. Additionally, he took the CBAs through sick child danger signs. The general danger signs in sick children were recapped and discussed. CBAs were then taught how to identify these danger signs in children. Following the presentation, CBAs were taken through exercises on how to identify danger signs (lethargic/ sleepy or unconsciousness) in children. A CBA was asked to demonstrate the documentation of a referral form. Additional comments and omissions made were identified and corrected by other CBA's. The CBAs were admonished to complete all fields on the referral sheet educate the parents on during home visits and always update their requisition sheet and submit their monthly reports in time. They were also taken through how to fill an inventory forms when going to borrow medications from their colleagues.

PREGNANT WOMAN DANGER SIGNS

Mrs. Barbara Opoku Gyamfi and Lucy Nkansah delivered the next presentation on pregnant woman danger signs. The CBAs were asked to mention the danger signs in pregnant women. They outlined the need to carefully identify these danger signs as they may lead to severe conditions if not detected in time. They were told the mode of transportation to the health facility should depend on the history of the pregnant woman. CBAs were then given case studies on how to register and record pregnant woman danger signs. CBAs were encouraged to educate pregnant women on the importance on antenatal care. They were admonished to use opinion leaders and develop other innovative ways to ensure they attend the antenatal care services. Furthermore, they were reminded to immediately refer a pregnant woman presenting with even a single danger sign. Questions were asked and clarifications were sought by CBAs after the practical exercises.

NEONATE DANGER SIGNS

A presentation on the danger signs in newborn babies was done by Barbara Opoku Gyamfi and Lucy Nkansah. CBAs were called upon to identify danger signs in neonates and the importance of early identification of these signs. Case studies were then presented to CBAs through videos after the presentation for them to identify the danger signs in the newborn. The presenter then recapped documentation of neonate danger signs in community registers. They were reminded to keep a copy of the referral sheet for documentation purposes and also to make follow-up visits after referrals.

RDT RESULTS READING AND DRUG EXPIRATION TEST

The next session was a test on RDT results and drug expiration date reading facilitated by Mrs. Felicia Agyei. CBAs were to identify whether an RDT result was either positive, negative, or invalid. This was followed by the reading of expiration dates on RDTs. CBAs were to identify whether RDT kits were expired or safe for use. Answers to the prior RDT results tests were presented as power point presentations with the facilitator leading discussions. CBAs were asked to determine the results of these RDTs as the slides were played one after the other.

FEVER & MALARIA REVIEW, RDT PRACTICALS & AL DRUG ADMINSITRATION

Mr Shaibu Mohammed and Michael Morrison delivered a presentation on fever and malaria. They outlined the causes, symptoms, and prevention. The various danger signs of fever in children were also enumerated. The facilitators went on to invite questions and contributions from Supervisors and CBAs. This was then followed by a review of the steps involved in conducting an RDT test on a child, documentation of test results and treatment to be given following a positive result. A subsequent demonstration on how RDT is carried out was done, selected CBAs took turns to conduct RDTs on each

other while supervisors guided them through the process. An extended session on Artemether Lumefantrine (AL) use as malaria treatment was comprehensively discussed. CBAs were properly explained to on the usage of AL for malaria treatment. They then took turns to ask questions and seek clarifications on the use of the drugs for children between 2 months and 5 years.

TEPID SPONGING

Barbara Opoku-Gyamfi took the CBAs through a practical session on tepid sponging and the process of handwashing. She explained what tepid water is, the reason behind beginning tepid sponging from the feet of the child before other parts of the body. A role play was done by 2 CBA's using a case study on Fever. They also demonstrated how to identify dehydration in a child through the slow skin pinch.
The CBAs then sought clarifications and asked questions on areas they were not clear about.

COUGH & PNEUMONIA

After an hour's lunch break, Mr. George Nana Simpson delivered a presentation on cough and pneumonia in children under five years. He commenced with a comprehensive presentation on pneumonia, outlining the causes, signs and symptoms, treatment and prevention. CBAs were given video exercises on the identification of the presence of chest in drawing. CBAs were required to identify whether a child had fast breathing or not as part of the exercises. He demonstrated with videos, how to assess fast breathing in children and followed it up with exercises on fast breathing.
Corresponding exercises were carried out on cough and pneumonia indicators like stridor and chest in drawing. This was followed by exercises on case studies of children affected with cough or pneumonia. CBAs documented these cases in their registers and prescribed treatment for affected children. CBAs were reminded to check the expiration date of medications given after which, there was a demonstration on how to mix amoxicillin, educate mothers on prevention of cough and pneumonia. CBAs were reminded to make follow up visits. Mr. Mohammed Shaibu reminded CBAs that, Amoxicillin should be given when there is cough and fast breathing.

NUTRITION

Mr. Mohammed Shaibu delivered an extensive presentation on nutrition in children. He outlined the following in his presentation; definition of malnutrition, signs, and symptoms of malnutrition in children, symptoms of kwashiorkor, nutrition practices for caregivers. He explained the importance of exclusive breastfeeding for the first 6 months of a baby's life. There were also discussions on the signs of malnourishment. The facilitator also demonstrated how to assess pedal oedema in children, how the MUAC tape is used to assess child nutritional status. Contributions and questions from CBAs were as well addressed after the presentation.

REVIEW OF DAY'S ACTIVTIES

Mr. Mohammed Shaibu and Michael Morrison then led a discussion on all that had ensued for the entirety of Day'1s activity. CBAs had all the challenges they had with the training on all priority areas/diseases (malaria/fever and cough/pneumonia) addressed. The facilitator reviewed all treatment regimen for malaria, fever, cough, and pneumonia.

RECESSION

The program ended at 5:30pm prior to which announcements for the following day's activities were given. CBAs were then divided into groups ahead of Day'2s clinical practical session.

DAY 2 – FRIDAY, AUGUST 26, 2022

PRACTICAL SESSION AT BAREKESE HOSPITAL AND COMMUNITY OUTREACH

A practical session scheduled for Day 2 of the training at the Barekese Hospital began at 9:00am. A practical examination of the capacity to assess of the capacity to assess Selected CBAs had their ability to carry out a general assessment on children under 5 years who visited the outpatient department of the hospital examined. The other CBAs observed and made their comments afterwards. The areas assessed include; malnutrition, pedal oedema, breathing rate, stiff neck fever and chest in drawing. After each participant finished attending to a child, the facilitator identified all short falls of the participant and addressed them. Covid 19 and blood pressure screenings were done for all the CBA's. The team then headed back to the Atwima Nwabiagya North District Assembly (venue of the refresher training) at 11:30am to continue with an in-class training session.

REVIEW OF EVENTS OF PRACTICAL SESSION

CBAs had the opportunity to review events during the clinical practical session at the Barekese hospital. Each CBA gave an account of their experiences and all challenges they encountered. Facilitators of this session responded adequately to all concerns of CBAs and particularly highlighted the need to refer cases/situations that they were not provided any training on. Additionally, facilitators informed participants about errors observed and made the needed corrections.

DIARRHOEA IN CHILDREN

Mr. Mohammed Shaibu began with a presentation on Diarrhoea. He outlined the causes, symptoms, treatment and prevention of diarrhoea. Plenary discussions and interactions were used to achieve the goal of this section. CBAs were also given the opportunity to share some experiences they had in their respective communities on diarrhoea and how they handled these situations. Contributions and Questions from CBAs were as well addressed. Facilitators then engaged CBAs on exercises involving slow skin pinch and sunken eyes as indicators for dehydration in children. CBAs were to identify the presence or absence of sunken eyes and slow skin pinch in children as a measure to check for dehydrated children.

HOME VISITS

CBAs were then taken through a comprehensive procedure on how to carry out home visits by Barbara Opoku-Gyamfi assisted by Felicia Agyei Mensah. In the presentation they educated CBAs on the following:

- Rationale for home visits
- Number of home visits to be carried out and how it is to be done
- Things to avoid during home visits
- Helping the mother stay healthy before birth
- Helping the mother to stay healthy after birth
- Caring for the sick newborn and small baby
- Keeping the baby healthy after birth
- Supporting a mother successfully breastfeed
- Referral of sick child and neonates

CBA COMPETENCY EXAM

An integral part of the refresher training is to verify whether CBAs have well understood all that has been taught. CBAs were expected to take a competency exam to evaluate their extent of knowledge of the

Health2Go program and their duties in the community. CBAs were examined on all the training sessions they were taken through including; Identifying general danger signs in children, RDT results reading, drug expiry date reading, breathing rate, chest in drawing determination, case studies and treatment regimen. This session lasted for an hour.

TRAINING EVALUATION AND RECOMMENDATIONS

- The training given was comprehensive and engaging
- CBAs have improved due to regular trainings organized.
- The register should be digitalized
- There were not a variety of meals served
- The transportation allowances given were better than before
- Some of the videos should be changed
- Training on another priority disease should be included
- Bicycles are worn out and should be replaced
- Some CBAs are Sabbatarian so the training should come to a close latest by 4:00 pm

REMARKS FROM THE SUB-DISTRICT HEAD

Mr. Mohammed Shaibu encouraged the CBAs to continue to work assiduously for the programme while we pray to get more funding to sustain the various activities being carried out.

REMARKS FROM THE PROJECT CO-ORDINATOR

The Project Co-coordinator, Mr. Gideon Kwarteng Acheampong thanked all and sundry for honoring the invitation. He then addressed the issue about the logistics and other training items. He mentioned that an approval has not yet been given for the logistics. Additionally, the bicycle is an expensive equipment and most likely, they will not get one like the previous one. The other logistics will be provided but the bicycle will take some time to get replaced. He also appreciated the efforts of Mr. Shaibu in organizing the health screenings for the communities. He also mentioned that an eye screening will be organized soon for all the CBA's.

CONCERNS AND SUGGESTIONS, WRAP UP

The CBAs requested to know beforehand the number of workshops slated annually and the scheduled training times. Mr. Gideon Kwarteng Acheampong informed the gathering that annually, two refresher trainings are organized. The next refresher training for 2022 will be scheduled in October. The due date will be communicated ahead of the program

VOTE OF THANKS

Mr. Hango Alhassan gave the vote of thanks on behalf of the Community Based Agents. He appreciated the efforts of the Health2Go team, the supervisors, and the facilitators. He expressed his appreciation regarding the impact of Health2Go and prayed that the project will be extended to other districts. A closing prayer was then said to bring proceedings to an end.

DDHS for Atwima Nwabiagya-Mr. Eric Sarpong North officially opening the Refresher training

CBA assessing child nutritional status during field practicum

Barbara Opoku Gyamfi supervising a session on ORS preparation for children

CBAs engaging in a 'role play' to demonstrate the process of Home visiting

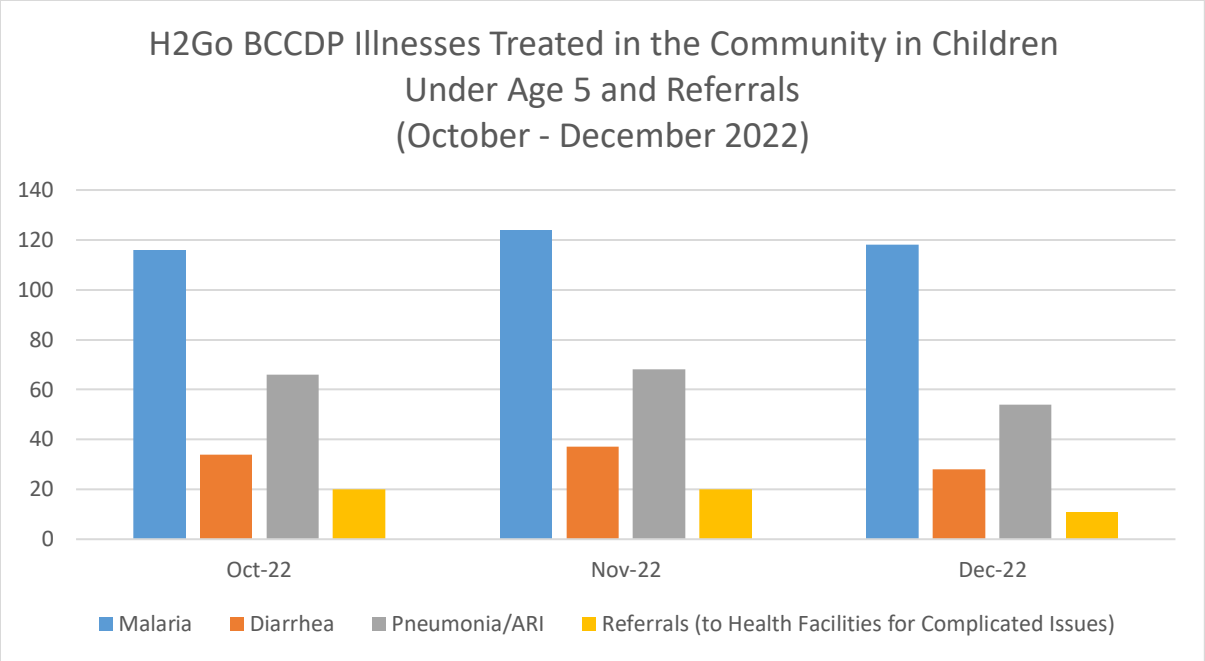
Mr. Mohammed Shaibu facilitating a session on Documentation

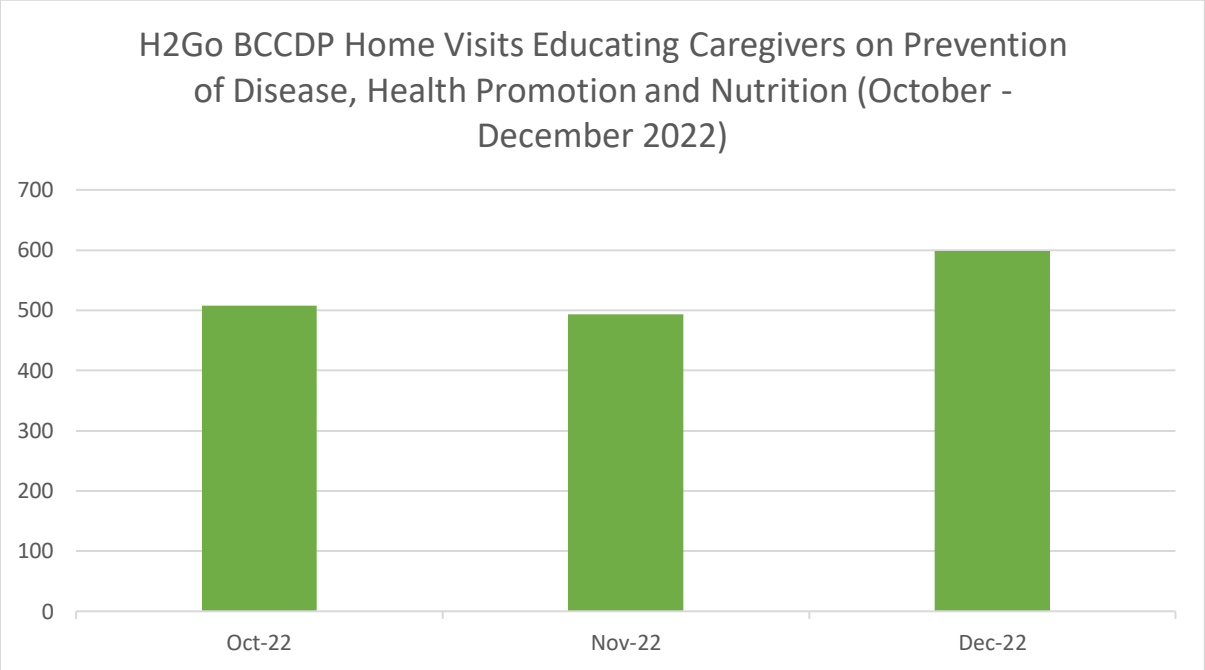
Group picture of training participants and facilitators

BCCDP Demonstration Project Results

Among approximately 2,200 children under age 5, (October 2022 – December 2022):

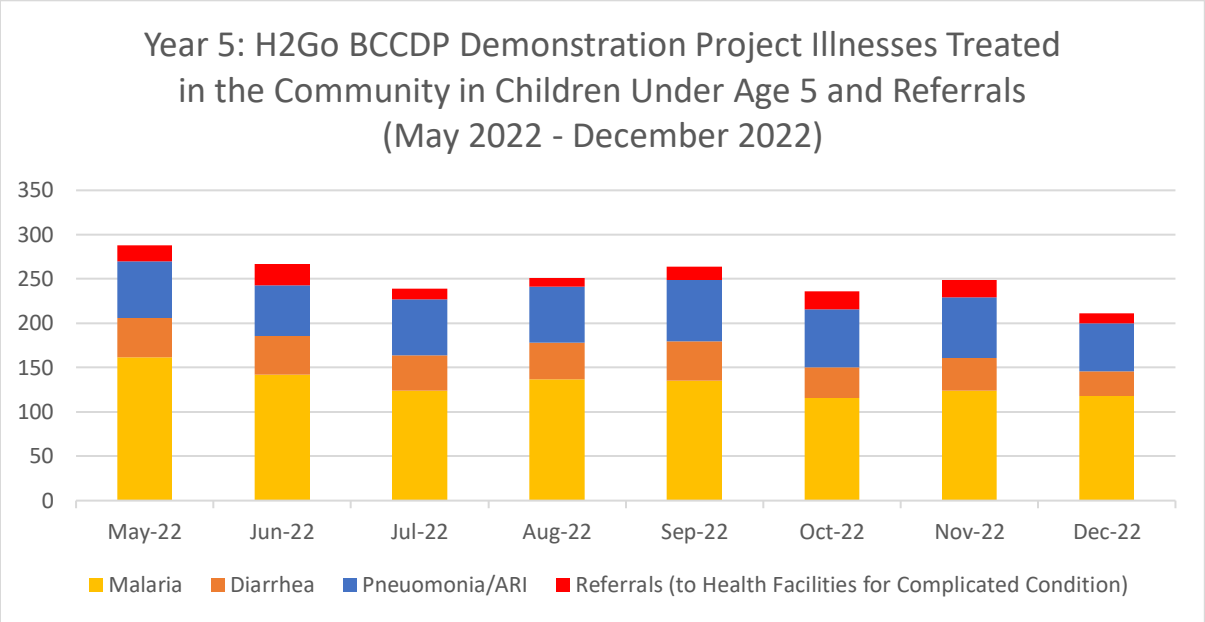
- 645 illnesses were treated in the community by H2Go BCCDP CBAs
    - 358 Malaria; 99 Diarrhea; 188 Pneumonia/Acute Respiratory Illness (ARI)
- 51 Referrals were made to health facilities for serious illness: 1,600 Home Visits





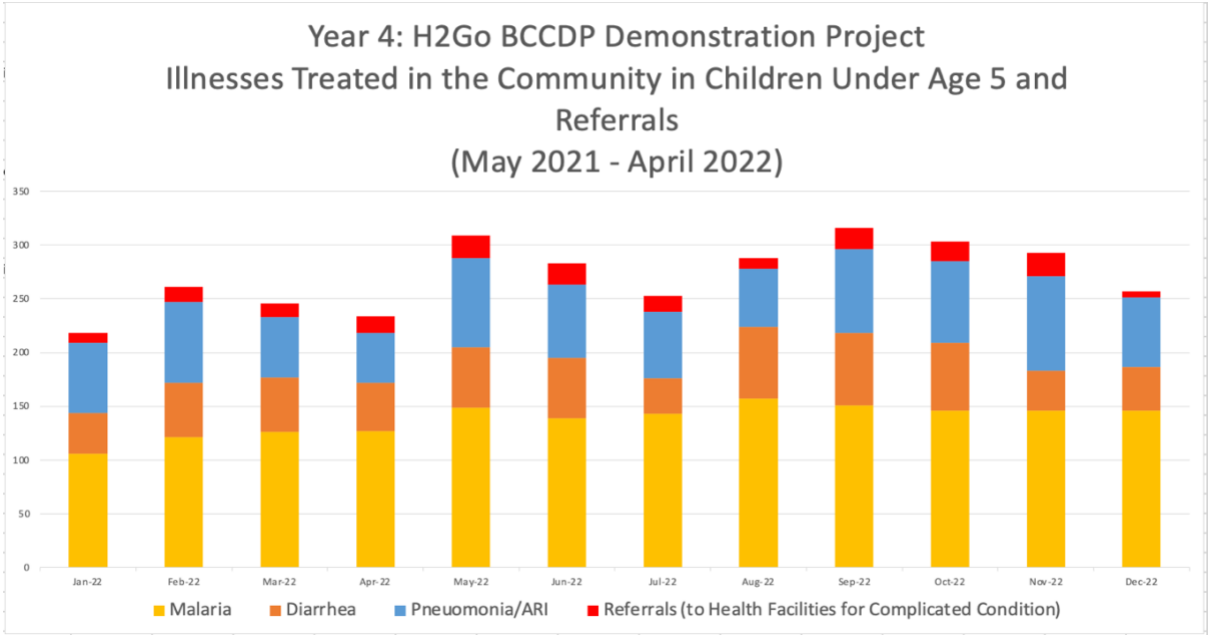
Year 5: Among approx. 2,200 children under age 5, (May 2022 – December 2022):

- 1,875 illnesses were treated in the community by H2Go BCCDP CBAs
    - 1058 Malaria; 313 Diarrhea; 504 Pneumonia/Acute Respiratory Illness (ARI)
- 130 Referrals were made to health facilities for serious illness; 4,339 Home Visits



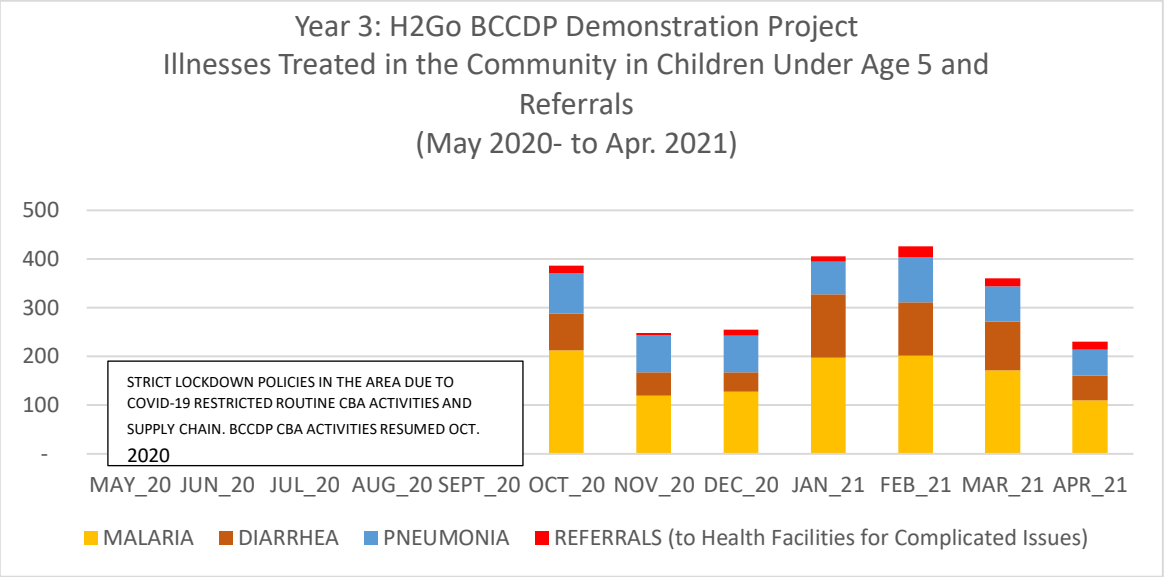
Year 4: Among approx. 2,200 children under age 5, (May 2021 – April 2022):

- 3,077 illnesses were treated in the community by H2Go BCCDP CBAs
    - 1,657 Malaria; 605 Diarrhea; 815 Pneumonia/Acute Respiratory Illness (ARI)
- 184 Referrals were made to health facilities for serious illness; 6,643 Home Visits



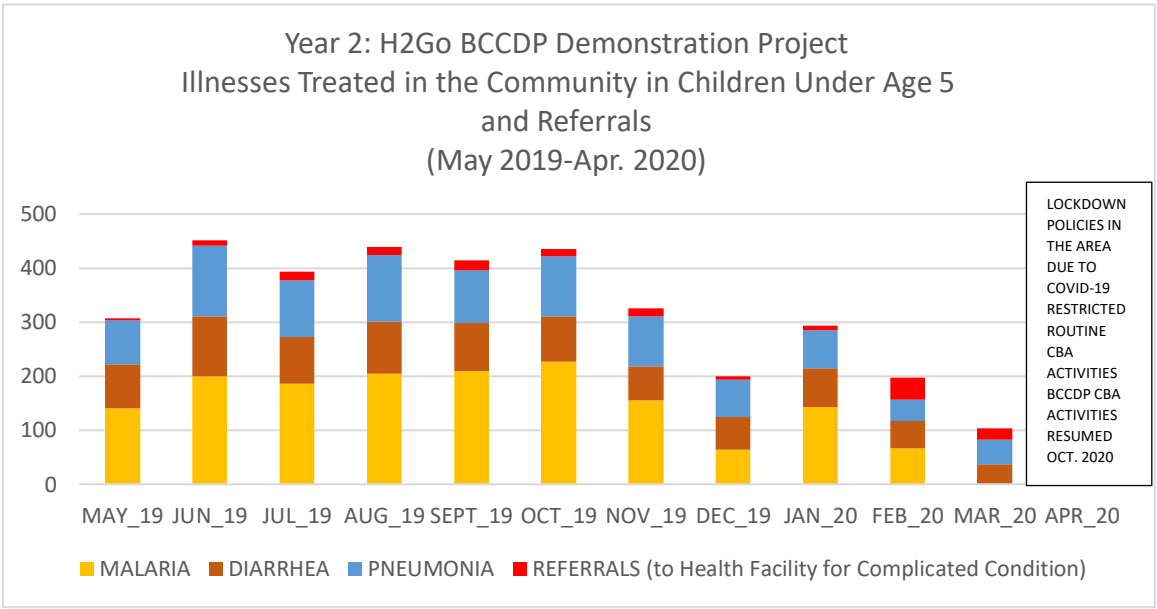
Year 3: Among approx. 2,200 children under age 5, (May 2020 – April 2021):

- 2,214 illnesses were treated in the community by H2Go BCCDP CBAs
  - 1,141 Malaria; 552 Diarrhea; 521 Pneumonia/Acute Respiratory Illness (ARI)
  - 99 Referrals were made to health facilities for serious illness; 3887 Home Visits



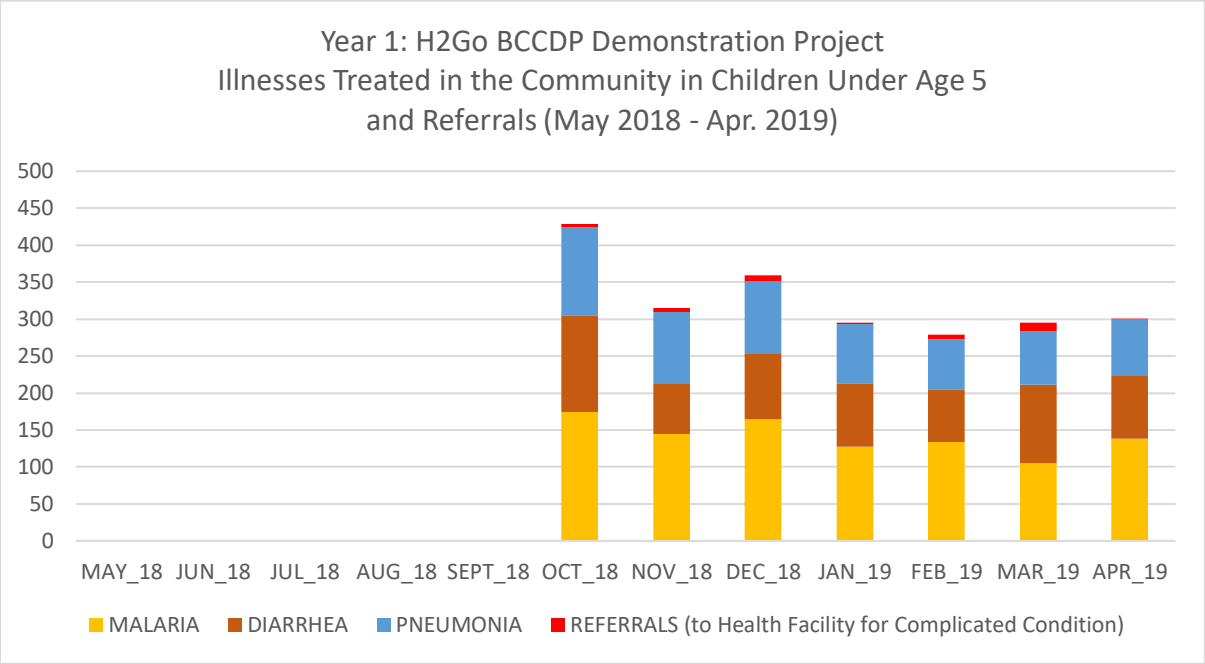
Year 2: Among approx. 2,200 children under age 5, (May 2019 – April 2020):

- 3,393 illnesses were treated in the community by H2Go BCCDP CBAs
  - 1,596 Malaria; 831 Diarrhea; 966 Pneumonia/Acute Respiratory Illness (ARI)
- 166 Referrals were made to health facilities for serious illness; 6,293 Home Visits



Year 1: Among approx. 2,200 children under age 5, (May 2018 – April 2019)*:

- 2,234 illnesses were treated in the community by H2Go BCCDP CBAs
    - 987 Malaria; 635 Diarrhea; 612 Pneumonia/Acute Respiratory Illness (ARI)
- 39 Referrals were made to health facilities for serious illness; 8,037 Home Visits

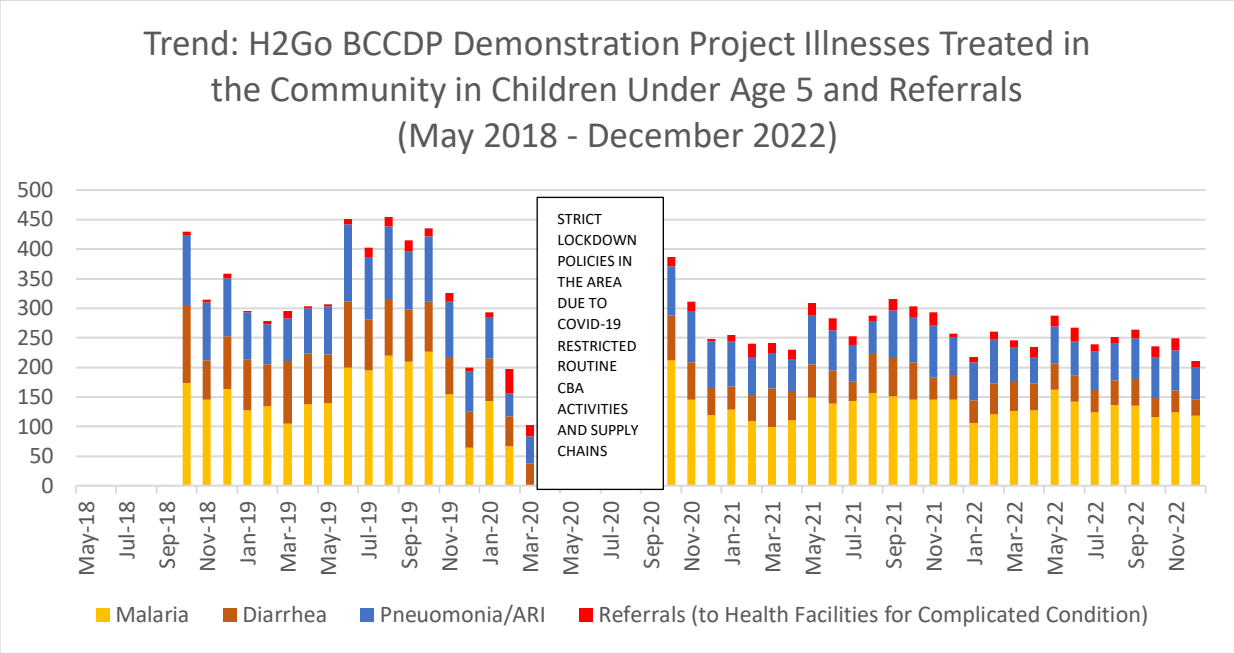


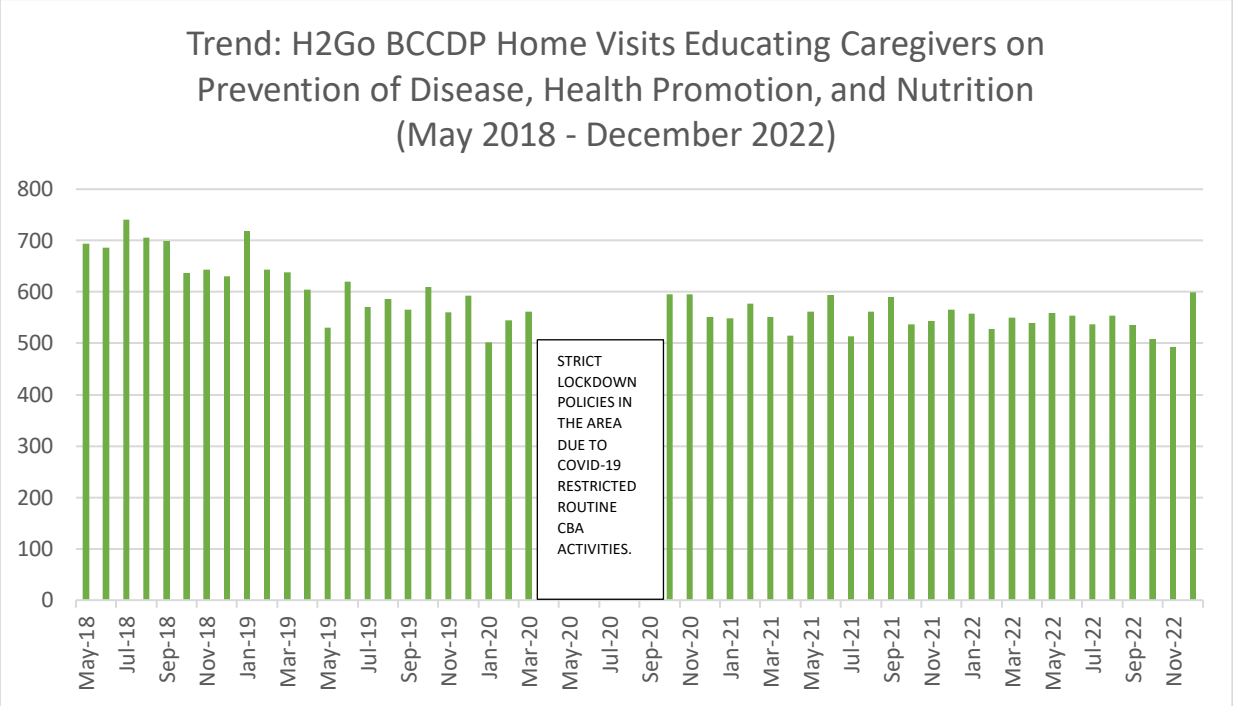
*CBAs did not have medicines until Oct. 2018, but began conducting home visits in May 2018

<u>Trends to date</u> (May 2018 –December 2022)*:

Trend-Project total: Among approximately 2,200 children under age 5:

- 12,412 illnesses treated in the community by H2Go BCCDP CBAs
- 6,245 malaria; 2,771 diarrhea; 3,396 pneumonia/Acute Respiratory Illness (ARI)
- 624 referrals for serious and life-threatening illnesses
- 29,203 Home Visits





*CBAs did not have medicines until Oct. 2018, but began conducting home visits in May 2018

Lessons Learned

Wawase CHPS Zone Pilot

Lessons learned from the Wawase CHPS Zone Pilot have been significant as H2Go has tested Training, Implementation and Monitoring and Evaluation processes in a limited population and a manageable geographically defined site. In addition to improving overall healthcare and encouraging health prevention in households, the successful implementation of H2Go enabled health facilities to address urgent care more effectively.

Key learning includes:

- Determining the right amount of initial and refresher training
- Creation of additional tools and job aids to support CBA activities
- Development of a comprehensive CBA competency exam
- Linkage of supervision to training
- Community internship and supervision processes
- Appropriate equipment and replacement strategy
- Mobilizing CBAs quickly to support COVID-19 health education and risk communication in their respective communities
- Adaptation of trainings and supervision visits to be fully operational in context of pandemic

BCCDP Demonstration Project

Key lessons learned thus far include:

- Refinement of training model for adaptation in the community
- Reinforcing training skills with community internship
- Expansion to a larger site
- Mobilizing CBAs quickly to support COVID-19 health education and risk communication in their respective communities
- Adaptation of trainings and supervision visits to be fully operational in context of pandemic

Next Steps

With the implementation of the Wawase CHPS Zone Pilot and the expansion to the larger BCCDP Demonstration Project, H2Go aims to scale up and create a means for country-wide implementation as well as adaptation and expansion to other countries. As such, H2Go is taking action to achieve sustainability and expansion. Efforts include continued development of a sustainable financial model building on the work of the collaborative team from the University of Oxford, continued work with a consultant, former deputy of Ghana Health Service, to advance expansion efforts and connect with current health system leaders; seeking funding to expand into other countries; and evaluating the impact of the H2Go program in communities, both retrospectively and prospectively.

Progress has been made regarding building awareness of the H2Go program among regional and national Ghana Health Service (GHS) leaders. Dr. Stephen Manortey and the H2Go team gave two presentations to regional and national GHS leaders, receiving considerable positive feedback and interest to expand the program.

Moreover, H2Go is exploring ways the program can be adapted to 1) play a larger role in supporting country efforts within the community context for the current global pandemic and future emerging diseases; and 2) expand the scope of the program to extend health services coverage to a broader population. Next steps include:

- Prepare for expansion to a larger area of District level in Volta, Ashanti, and Eastern Regions
- Expand Countrywide in Ghana
- Seek additional support
- Prepare for implementation and expansion to additional countries
- Evaluate the impact of the H2Go program both retrospectively and prospectively
- Field test the H2Go app in communities
- Adaptation of H2Go program to support COVID-19 pandemic prevention efforts as well as other future infectious diseases that may emerge
- Assess the feasibility of broadening H2Go program to cover other conditions and age groups

CHPS Zone (Wawase CHPS Zone Pilot < 2,000 pop.) → Sub-District (BCCDP Demonstration Site, approx. 20,000 pop.) → District Level (Approx. 100,000 pop.) → Country-wide and Additional Countries

Appendix 1: Health 2 Go Timeline

2015

January – June

- Extensive research conducted on community-based programs
- Determined to begin with child and maternal health with the concept of eventually expanding to address other populations within the community
- Program outcomes and objectives identified
- Selected evidence-based gold standard curriculum WHO/UNICEF Integrated Community Case Management, 'Caring for newborns and children in the community.'
- Connected with World Health Organization, UNICEF, Ghana MOH, and child health leaders to obtain relevant program information and resources
- Health 2 Go logo designed

July – December

- Ghana visit to Kumasi and Kpong for needs assessment and site research (July)
- Established and worked with a planning group
- Initiated Health 2 Go Program in Ghana with partnership of University of Utah, Ensign Global College, CastaPebble, and Ghana Health Service (GHS)

- Worked with Lower Manya Krobo Municipal Health to identify administrative personnel and site
- Identified a cluster of 6 small communities in the Wawase CHPs zone for Kpong Pilot
- Research and test equipment for program

2016

January – June

- Sourced CBA equipment in Ghana and US
- Worked with Municipal Health to identify 10 CBAs in communities in Wawase CHPS Zone
- Prepared material for Manager, Supervisor and CBA training
- Developed launch promotional materials, including press kits
- Engaged communities; received official entry and welcome by chiefs (May)
- Formed direct linkage to hospital and health facility that receive referrals by Health 2 Go

July – December

- Manager/Facilitator Training (5-days) conducted by former Ghana national (iCCM) facilitator to train 6 GHS administrators and providers as H2Go Wawase CHPS Zone Managers and Facilitators held at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (July 4-8)
- Press event at Ensign Global College with national TV and regional newspaper coverage to promote H2Go Kpong Pilot (July 14)
- Supervisor Training (3-days) to train 5 GHS Community Health Officers as H2Go Kpong Supervisors; held at Ensign Global College, St. Martin's, and Atua Hospitals (July 25-27)
- CBA training (6-days) to train 10 community members as H2Go Wawase CHPS Zone CBAs held at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (August 1-6)
- CBA Community Internship (2-days) in CBAs communities in Wawase CHPS Zone (August 23, 30)
- Engagement of communities through multi-community durbars (town hall meeting) to introduce H2Go in Wawase CHPS Zone (October 24)
- Official H2Go launch in 6 communities in the Wawase CHPS Zone: total pop. 1,500 people (October 24)
- H2Go BCCDP CBA bikes, medicine boxes and supplies delivered (October 24)
- CBAs begin service in H2Go Wawase CHPS Zone Pilot communities (November 1)
- Supportive supervision provided for H2Go Wawase CHPS Zone Pilot CBAs beginning this month (December)

2017

January – June

- First Kpong Refresher Training (1-day) held at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (January)
- Engagement of communities through multi-community durbars (Town Hall Meeting) to discuss program (March)
- H2Go Wawase CHPS Zone Refresher Training (2-days) at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (April)

- Completed GIS Mapping, Census, and Health Behavior Survey in communities (June)

July – December

- H2Go Wawase CHPS Zone Refresher Training (2-days) at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (July)
- Engagement of communities through multi-community durbars (Town Hall Meeting) to discuss H2Go Wawase CHPS Zone program (September)

2018

January – June

- H2Go Wawase CHPS Zone Refresher Training (2-days) at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals, included press coverage as part of H2Go BCCDP promotion (January 18-19)
- Press event was held at Ensign Global College with Ghana National TV and regional newspaper coverage to promote H2Go expansion to BCCDP (January 19)
- Met with Ghana Health Service (GHS) regarding medicine supply to ensure program's sustainability (January)
- Established strong relations with Regional, District, sub-District, and community leaders associated with BCCDP (January)
- Formed direct linkage to health facilities (Berekese Heath Center and St. Patrick's Hospital) that will receive H2Go referrals (February)
- Completed the initial H2Go BCCDP 5-day training for 6 GHS administrators and providers trained as H2Go Managers/Facilitators (February 19-23)
- Completed the initial H2Go BCCDP 5-day training for 7 GHS community health officers trained as H2Go supervisors (April 16-20)
- Completed the initial H2Go BCCDP 5-day training for 30 community members trained as H2Go community-based agents (CBAs) (April 16-20)
- 1-day H2Go Community Internship at 3 BCCDP communities (Berekese, Barekuma, and Fufuo) (April 25)
- Engagement of BCCDP communities through 2 multi-community Durbars (town hall meetings) (April 26)
- Press event at durbars with Ghana National TV, radio, and newspaper (April 26)
- H2Go BCCDP CBA bikes, medicine boxes and supplies delivered (April 26)
- CBAs began service in H2Go BCCDP communities (May 1)
- Supportive supervision provided for CBAs beginning this month (June)

July – December

- H2Go Wawase CHPS Zone Refresher Training (2-days) at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (August)
- H2Go team have agreed on supplying medicines for CBA's on-the-job training, scheduled to occur in September

- H2Go BCCDP CBA equipment and supplies such as torchlight, raincoat, and rainboots delivered (September)
- 1-day H2Go BCCDP Refresher Training and distribution of 1-month medicine supply for Fufuo, Barekuma, and Maban Zones at Berekese (September 27)
- 1-day H2Go BCCDP Refresher Training and distribution of 1-month medicine supply for Abira and Warpong Zones (October 2)
- Engagement of communities through multi-community durbars (Town Hall Meeting) to discuss H2Go Kpong program at Abobeng and Wawase (October 9)
- Engagement of communities through multi-community durbars (Town Hall Meeting) to discuss H2Go Kpong program held at Abobeng and Wawase (December 11)
- Cast-a-Pebble agreed to fund H2Go BCCDP CBA medicines for one year (December)
- Cast-a-Pebble indicated they would fund H2Go Wawase CHPS Zone Pilot for an additional year

2019

January – June

- H2Go BCCDP Refresher Training held SDA Nursing Training School and St. Patrick's Hospital in Barekese, Kumasi (January 17-18)
- Wawase CHPS Zone Refresher Training (2-days) at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (March 7-8)
- Site visit to BCCDP conducted (May 21)
- Assessment of H2Go Wawase CHPS Zone Pilot CBA equipment (June 20)
- H2Go BCCDP Refresher Training (2-days) held at SDA Nursing Training School and St. Patrick's Hospital in Barekese, Kumasi (June 27-28)

July – December

- Assessment of H2Go BCCDP Demonstration Project CBA equipment (July 17)
- Engagement of communities through multi-community durbars (Town Hall Meeting) to discuss H2Go BCCDP program at Achina (October 23)
- H2Go BCCDP Refresher Training (2-days) held SDA Nursing Training School and St. Patrick's Hospital in Barekese, Kumasi (October 24-25)
- H2Go Wawase CHPS Zone Pilot Refresher Training (2-days) at Ensign Global College with clinical sessions at St. Martin's and Atua Hospitals (November 14-15)

2020

January – June

- Pre-scheduled H2Go Refresher Trainings for Wawase CHPS Zone Pilot and BCCDP Demonstration Project postponed due to COVID-19 pandemic and Ghana national quarantine restrictions
- Training of H2Go BCCDP Demonstration Project CBAs on COVID-19 health education and risk communication via telephone (March & April 2020)
- Training of H2Go Wawase CHPS Zone Pilot CBAs on COVID-19 health education and risk communication via onsite supervisory visit (March & April 2020)

July – December

- H2Go BCCDP Refresher Training (2-days) held at SDA Nursing Training School and St. Patrick's Hospital in Barekese, Kumasi (September 24-25)
- Wawase CHPS Zone Pilot Refresher Training (1-day) at Wawase (August 17)
- H2Go BCCDP routine activities and service in communities resumed (October 1, 2020)
- Initiated a collaborative team with the University of Oxford and began working with Prof. Stephen Alder on a social franchise model and app ideation (December 2020)

2021

January – June

- Health 2 Go is based at University of Utah (UU) Center for Business, Health, and Prosperity in the David Eccles School of Business and the Institute for Health and Development at Ensign Global College, Ghana (January)
- Prof. Alder began collaboration with University of Oxford group to develop a social franchise model to ensure sustainability of Health 2 Go (January)
- Health 2 Go Uganda expansion monthly discussions began with Interethnic Health Alliance (IHA) using social franchise model (January)
- H2Go BCCDP Refresher Training (2-days) held at Atwima Nwabiagya North District Assembly in Barekese, Kumasi and Barekese Hospital in Barekese, Kumasi (March 25-26)
- H2Go Wawase CHPS Zone Pilot Refresher Training (2-days) at Ensign Global College with clinical sessions at selected health facilities in the Lower Manya Krobo District (April 29-30)
- Health 2 Go summer intern projects initiated for the social franchise model, app development, and Helping Babies Breathe (May)
- Began H2Go app development collaboration with the UU Therapeutic Games and Apps Lab (GApLab) (June)

July – December

- Prof. Alder and collaborators presented the H2Go social franchise model at the University of Oxford Saïd Business School
- Helping Babies Breathe Training of Trainers launched at Ensign Global College (November 15-16)
- H2Go BCCDP Refresher Training (2-days) held at Atwima Nwabiagya North District Assembly and Barekese Health Center in Barekese, Kumasi (November 25-26)
- Completed initial development of H2Go app (December)

2022

January – June

- Concept Paper for randomized community trial submitted (January 18)
- H2Go Wawase CHPS Zone Pilot Refresher Training (2-days) at Ensign Global College (January 27-28)

- Thrasher Research Foundation invitation to submit a full proposal (February 18)
- H2Go presentation to GHS Eastern Region leadership (March 17)
- H2Go presentation to GHs national leadership (March 30)
- H2Go presentation to Ensign Global College's Board of Governors meeting (June 13)

July – December

- H2Go BCCDP Refresher Training (2-days) held at Atwima Nwabiagya North District Assembly and Barekese Health Center in Barekese, Kumasi (August 25-26)
- Dr. Stephen Manortey and prospective H2Go program coordinator, Francis Amedoadzi, completed a feasibility tour and resource mapping into 11 proposed Yilo Krobo communities identified by Ghana Health Service (GHS) (December 22-23)

References

1. Wardlaw, T., You, D., Newby, H., Anthony, D., & Chopra, M. (2013). Child survival: a message of hope but a call for renewed commitment in UNICEF report. *Reprod Health, 10*, 64. doi:10.1186/1742-4755-10-64

2. Daelmans B, Seck A, Nsona H, Wilson S, Young M. Integrated Community Case Management of Childhood Illness: What Have We Learned? The American journal of tropical medicine and hygiene. 2016;94(3):571-3. Epub 2016/03/05. doi: 10.4269/ajtmh.94-3intro2. PubMed PMID: 26936992; PMCID: PMC4775893.

3. United Nations Children's Fund, *The State of the World's Children 2016: A fair chance for every child.* UNICEF, New York, 2016.

4. Diaz T, Aboubaker S, Young M. Current scientific evidence for integrated community case management (iCCM) in Africa: Findings from the iCCM Evidence Symposium. Journal of global health. 2014;4(2):020101. Epub 2014/12/19. doi: 10.7189/jogh.04.020101. PubMed PMID: 25520783; PMCID: PMC4267091.

5. Young M, Wolfheim C, Marsh DR, Hammamy D. World Health Organization/United Nations Children's Fund joint statement on integrated community case management: an equity-focused strategy to improve access to essential treatment services for children. The American journal of tropical medicine and hygiene. 2012;87(5 Suppl):6-10. Epub 2012/11/21. doi: 10.4269/ajtmh.2012.12-0221. PubMed PMID: 23136272; PMCID: PMC3748523.

6. United Nations Children's Fund, Committing to Child Survival: A Promise Renewed −Progress report 2015, UNICEF, New York, September 2015.

7. United Nations Children's Fund. Child Mortality Estimates: *Country-specific under-five mortality rate* [Internet]. UNICEF Global Databases. 2019. Available from: http://data.unicef.org

8. Costello AM and Dalglish SL on behalf of the Strategic Review Study Team. "Towards a Grand Convergence for child survival and health: A strategic review of options for the future building on lessons learnt from IMNCI." Geneva: WHO, 2016.

9. Liu L, Oza S, Hogan D, Chu Y, Perin J, Zhu J, Lawn JE, Cousens S, Mathers C, Black RE. Global, regional, and national causes of under-5 mortality in 2000-15: an updated systematic analysis with implications for the Sustainable Development Goals. Lancet (London, England). 2017;388(10063):3027-35. Epub 2016/11/15. doi: 10.1016/s0140-6736(16)31593-8. PubMed PMID: 27839855; PMCID: PMC5161777.

10. https://dashboards.sdgindex.org/#/GHA

11. Black RE, Taylor CE, Arole S, et al. Comprehensive review of the evidence regarding the effectiveness of community-based primary health care in improving maternal, neonatal and

child health: 8. summary and recommendations of the Expert Panel. Journal of global health. 2017;7(1):010908.

12. https://www.bloomberg.com/news/articles/2020-05-31/ghana-emboldened-by-low-fatality-rate-to-ease-some-restrictions

13. https://www.ghs.gov.gh/covid19/dashboardm.php

14. https://ourworldindata.org/coronavirus/country/ghana